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PART I.

ORIGINAL COMMUNICATIONS.

I.

Observations on the Cause of Remittent Fever, as it appears in the Mediterranean; with an Outline of a Plan for preventing its Occurrence. By H. Robertson, M. D. Medical Department.

From Cadiz, through the Straits of Gibraltar and along the shores of the Mediterranean, a fever commonly prevails during the spring and autumn, but particularly in the latter season, similar in every respect to the endemial fever of the West Indies and other intertropical countries. It having been ascertained by repeated observation, that whenever the remittent fever makes its appearance, it originates from the influence of a precisely similar cause; and it is owing to the prevalence of this cause, in a greater or less degree, that this fever is found to prevail with greater or less severity in certain situations. At the same time it is to be observed that its influence is liable to be modified by local circumstances.

The cause of intermittent and remittent fevers every where has been ascertained to arise from the same source, and to consist in a peculiar exhalation evolved from water in a stagnant state: the identity of the cause of this species of fever is besides implied from the similarity of its effects. It has been alleged with much probability, that the water, besides being stagnant, should contain a portion of the decaying remains of animal and vegetable bodies, as being essential in the extrication of this noxious fluid. It is this vapour that is denominated Marsh Miasma in professional treatises. I am, however, dis-

posed to think that stagnant water, even when comparatively free from accidental impurities, evolves, in the course of the decomposition of its own principles, a vapour capable at least of occasioning intermittent fever. There cannot, however, be any doubt that the noxious qualities of this vapour must be greatly heightened by the water from which it ascends having an admixture of animal and vegetable remains; and it is probable, that only when the Miasma arises from this source, it is capable of producing the severer forms of remittent fever.

Heat is, in the above-mentioned circumstances, the most important agent in the evolution of Marsh Miasma. It is accordingly found that the exhalations from stagnant water, even loaded with impurities in the highest degree, are much less pernicious, or altogether innocuous, in cold climates and in cold weather; but seem to increase in their virulence and power as we approach the tropics; where the diseases brought on by exposure to marsh exhalations are of the most violent description.

However, in situations exposed to places favorable for the extrication of Marsh Miasma, it is found that, during the prevalence of the hot season, remittent fever but rarely makes its appearance; this is probably to be accounted for by the greater power of the sun's rays in that season causing a proportionally rapid exhalation, whereby the decomposition of the water exposed to its influence is in a great measure, if not entirely, prevented; for the vapour of water being merely that element under another form, in consequence of being united with a greater proportion of heat than in its liquid state, it is not in any respect unfriendly to health. Whereas, the exhalation which produces remittent fever, seems to be a peculiar fluid generated by a new combination of the decomposed principles of the water, and the organic remains mixed with it in a stagnant state. And although both these fluids are produced from the same body, by the influence of the same cause, it would appear that the formation of watery vapours is a more immediate process, than that by which Miasmata is evolved. The particular properties of the component principles of Marsh Miasma remain yet to be discovered; and they are always elevated from their source mixed with a considerable quantity of aqueous vapour, and appear to possess the specific gravity of steam. During the hot season the column of heated air reaches much higher in the atmosphere than at any other period; and exhalations that would otherwise be pernicious to the health of those exposed to them, are then quickly carried beyond the reach of their producing any baneful effect.

On the other hand, in Spring, when the point of congelation is much lower in the atmosphere, every vapour arising

from the earth's surface is confined much nearer to its source; from this cause the peculiar fevers originating from Marsh Miasmata begin to take place according to the increasing power of the sun's rays; till the Summer heat sets in, and the consequent greater altitude of the heated atmospheric column, when these fevers disappear.

Again, in the Autumn, which is every where a moist season, the temperature both of the atmosphere and of the earth is then more equal than at any other period, and is accordingly more favorable for the evolution of Marsh Miasma. We therefore find that the worst form of remittent fever takes place at this season; which on the coast of the Mediterranean is frequently distinguished by the yellow colour, and every other symptom of fever originating from a similar cause within the tropics. As the height of the point of congelation in the atmosphere gradually descends towards the earth, as the calorific influence of the sun's rays abates; and as the temperature of the earth's surface is then permanently higher than at any other time of the year, every sort of exhalation is comparatively more rapidly elevated, till it approaches the colder stratum of the atmosphere, when it must move along with the current of the wind; and in this way it reaches places considerably elevated, thereby producing its specific effects. Amongst other instances of the same kind, I have known people affected with remittent fever in a very severe way, who had not been for some time without the walls of the Castle of Santa Barbara, at Alicante; a height of at least eight hundred feet above the sea shore: while at the same time, people equally susceptible to the impressions of the same cause, living on a level with the sea, and occasionally exposed to all the sources of Marsh Miasma, have escaped every attack of fever. Similar occurrences take place wherever any impediment is presented, by high grounds, to the free dispersion of the exhalations through the atmosphere.

The shores of the Mediterranean Sea afford a plentiful source for the evolution of Marsh Miasmata; and probably more effectually than if, as in other seas, its shores were washed by the recurrence of tides. But whatever is thrown out by the sea in this case, lies to putrify; a process that is promoted by the occasional dashing of the spray over it, or a fall of rain. This process naturally takes place in a much higher degree on the coast where towns are placed, than where there is an open beach; but even every where upon the coast, a noisome offensive smell is frequently perceived from this cause. The shores of the Mediterranean are therefore much more unpleasant, (and probably more generally marshy than the Atlantic,) in consequence of the accumulation of matter, for ages, that has been ejected by the sea: for whatever is once thrown on shore,

never returns, except on the occurrence of high winds, and then it commonly happens that as much matter is thrown on land, as is carried off. This I consider as a never-failing source of remittent fever; and is perhaps the chief cause of its appearance in this part of the world. Although I admit that occasionally it may draw its origin also from other sources; yet that which I have pointed out is unquestionably the most general all over the coasts of this sea.

As remittent fever takes its origin, not from an excess of evaporation from the surface of water, but from a peculiar fluid, gas, or vapour, evolved from water in a stagnant state, containing the decaying remains of animal and vegetable bodies; or which arise from such matters containing a certain proportion of humidity, and exposed to a warm atmosphere; therefore this fever equally prevails in places favorable as to climate, where, although distant from the sea or rivers, the inhabitants are inattentive to the cleanness of their houses and streets; or where considerable quantities of water are allowed to collect around their habitations. I very lately saw it originate from a much frequented common privy, that was never perfectly cleaned, and which I corrected by turning a small rill of water, so as to sweep it by a constant current from one end to the other. Such instances as this are, I am confident, very frequent causes of fevers; and although not much attended to in this point of view, I apprehend there is no circumstance more deserving attention as a cause of remittent fever. Indeed, wherever there exists the decaying remains of animal and vegetable matters, impregnated with a certain proportion of water, as in stables, the extrication of Miasma will naturally be the consequence, whenever the mass is subjected to a certain degree of temperature. Even the requisite temperature is very frequently produced in a mass of stable manure by its own fermentation, when the heat of the atmosphere is too low to produce that effect. In a similar way, the filth that naturally collects in much frequented streets, if not carefully and often cleared away, forms one of the most obvious and productive sources of Miasma; and which, independently of any other circumstance, gives origin to the most severe varieties of remittent fever. The carcasses of dead animals, as containing a sufficient quantity of humidity in themselves, give out a vapour that is productive of the worst species of remittent, when left exposed to the air in a warm climate. In this way the vapour arising from church yards, and from the vaults of churches in countries where it is the custom to bury the dead within their walls, oftentimes gives origin to this disease. A very melancholy instance came within my knowledge, at Lisbon, of a fatal fever having originated from the latter cause

Towards the end of last June, when at Gibraltar, I perceived an extremely offensive smell every time I passed the principal burying ground at that place. From what has come within the reach of my own experience, I suppose that this is the most dangerous of all Miasmata; and I was astonished, on contemplating that source of fever, and another which I shall afterwards mention, that Gibraltar was ever free from this most dangerous description of that disease. Probably from causes, not in any respect dissimilar, the plague itself frequently takes its origin.

Remittent fever, even in its worst form, is never an infectious or contagious disease; though, under bad management, there cannot be a question that it may, in its course, engender a matter capable of occasioning a contagious fever. However, as my object at present is, from a consideration of what is called by physicians the remote cause of this disease, to offer some suggestions with the view of preventing its appearance, I therefore consider it in its simple and original appearance. It has fallen to my lot to have had under my charge, a great many people sick of remittent fever in its worst form, during the present season; but I have not seen any servant or attendant of the hospital taken ill in consequence of their intercourse with the sick; which in all probability would not have happened had the fever been of a different nature.

The vapour that gives rise to remittent fever, can be always traced to a source similar to such as I have mentioned; and it seems only to shew its effects on the living body, when near to that source; and in no instance has it ever been detected to have communicated these effects to people living at a distance, by being imbibed by the clothes of such as had been exposed to it; or when transferred in any other way. In this respect the cause of remittent fever differs remarkably from the vapour producing typhus, plague, and other contagious disorders. In these cases, the vapour may be imbibed and transported to any distance, and be still capable of producing a particular malady in any climate, and even after a lapse of years.

I have already mentioned the effects of hot and of cold weather on the sources that give out Marsh Miasmata; and in preventing the extrication of which a wet season is equally favorable, or perhaps by the unusually great evaporation that may take place in these circumstances, the Miasma generated is thereby so diluted in its mixture with aqueous vapour as to be incapable of producing any effect. Perhaps in a similar way we find that no bad effects arise from the exhalations that ascend from running water; and in a like manner, when the walls of any place on the sea-coast, however favorable in other respects for generating Marsh Miasma, are built

so close upon the water, that no dry space is left; the exhalations that arise therefrom are never followed by any bad consequence.

That some places are more liable to this fever than others lying in the same latitudes, must, independently of the prevalence of the remote cause of the disease, be owing in a considerable degree to local circumstances: thus, places to the windward, or leeward of marshy grounds, or according to their situations on the sea-coast, are only affected with remittent fever on the blowing of particular winds.

Cadiz, in consequence of its low and insular situation, is peculiarly exposed to the influence of the causes I have mentioned as productive of remittent fever.

Gibraltar, though very differently situated, is no less exposed to similar effects from similar causes. In that place, along the shore towards the neutral ground, there is a considerable space between the water and the bottom of the walls, kept continually in a state of moisture only, which of all others is the condition most favorable for the production of the vapour in question. At one particular part, where this space is broader than any where besides, an inexhaustible source for generating Marsh Miasmata is afforded by the circumstance of the cattle being sometimes left standing there a whole day together, without any other cause. And I have no doubt that from that particular spot, and the cemetery before mentioned, the cause of the disease which at present desolates Gibraltar is to be traced. In consequence of the height and extent of the mountain opposing a barrier to the free dispersion of the exhalations that arise from the shore below, they are, as it were, thrown down and spread over the town; and must therefore act with redoubled effect upon its inhabitants. It is my opinion, that to this circumstance, and the excessively malignant nature of the vapour exhaling from the burying ground, we should impute the more violent form of the disease, as it occasionally appears in that garrison, and not to any peculiarity in its cause. It is probable that the discordance of opinion as to its contagious, or non-contagious nature, has originated in the unusually violent form of the disease as it has appeared at Gibraltar.

The tanks for washing clothes, so common all over the Peninsula, are unquestionably in many cases a very fruitful source of remittents; and in towns liable to this disease, water that has been used for washing, ought not on any account to be allowed to be thrown into the streets; and every attention should be paid in frequently cleaning out the tanks, and if possible by passing a current of water through them.

Carthagena is situated upon the coast; but is a good deal

confined on each side by higher ground, thereby in a certain degree preventing the dispersion of the exhalations, that (among other sources) ascend from the water that collects round the works upon every fall of rain. Again, Valencia, in nearly the same climate, although peculiarly exposed to pernicious exhalations that arise from the shallow and almost stagnant river that surrounds it, and also in consequence of the very common practice of irrigation in raising rice and other crops, is much less liable to remittent fever than either of the former places; most probably in consequence of its being situated in a very extensive flat country, thereby affording a free current for the vapour to pass off. This place (Alicante) suffered most severely from this fever as an epidemic, a few years ago, and where very bad cases of the disease are extremely common during every autumnal season; and, as I imagine, originate entirely from the exhalations from the beach, and from a place where water collects between a particular part of the town and the shore, where there is an open space of ground; and which, I believe, is chiefly in consequence of the bad construction of the public sewers. Alicante is open towards the right, having a marshy beach stretching nearly round the bay, while above the town it is sheltered by two very high hills; upon one of which the castle is built, and which, in a certain degree, must have the effect of throwing back upon the town the exhalations arising from the shore, when wafted in that direction.

The most strict quarantine regulations are established all over the country, in a certain degree subordinate to the management of a Board of Health. And although perhaps its views may be usefully and properly directed; there yet remains much to be done wherever I have been, besides that of guarding against the introduction of an epidemic disease, by detecting solitary instances of it on their occurrence.

The remote cause of remittent fever originates from a source commonly very palpable to our senses, and almost within our power to destroy or correct: at least, this should be fairly attempted, before it be admitted as impossible. It must be obvious that in the present general observations, no regular or systematic plan of proceeding with this intention can be laid down here: besides, every regulation must be modified according to local circumstances, wherever they are put in force.

Our views in this respect ought to be first directed to the proper construction of the public sewers, so that these have a free outlet, and in a way that the discharge does not become offensive. The streets, and particularly the market places, ought to be swept at least once a day or oftener, and the rubbish carried a considerable way inland, and deposited, or spread

over some dry sandy situation. The public tanks for washing, and the unnecessary waste and splashing of the water at the public fountains, should be attended to. The stables and other offices should be visited, to see that they be carefully kept clean. In situations upon the sea-shore, every sort of matter ejected from the water, ought to be collected in the hot season, and burnt: but a line of wall embankment carried beyond both extremities of the town, along the shore, and so constructed, that during every season or wind there should be a depth of several feet of water on the sea side of it, will more effectually answer the purposes of prevention.

A revival of the custom of burning the dead would be very conducive as a mean of prevention; and this ought at any rate to be followed with the carcasses of those animals, which at present are left to putrify in the open air, or but very carelessly buried: however, no corpse ought to be interred without a considerable quantity of quick-lime being thrown into the coffin. In places where the remittent fever is apt to break out, the burying grounds, after being once well sprinkled over with the liquor called Chlorine, or oxymuriate acid, (or when that cannot be had, powdered common salt, placed in small quantities at short distances, and moistened with water containing an equal part of oil of vitriol,) ought to be thickly strewed over with quick lime, and this to be repeated every ten days, or oftener, during the autumnal season. Probably the beneficial consequences of this practice might be greatly increased, by strewing a layer of hot charcoal after every layer of lime, at the interval of a few days. The charcoal ought to be in the state of a coarse powder, to which it may be reduced by means of a stone roller. The lime ought also to be in small pieces; but this must not be done by previously slacking it. Burying in churches ought never to be permitted under any circumstances; but, after being carefully ventilated, their floors ought to be strewed over as above. In like manner the market places, the gutters of the streets, and every damp situation should to be strewed with quicklime every evening from the end of summer, till the cold weather sets in. A quantity of the same earth should be thrown, every night, down the privies, during the same period; as also over the floors of stables, and upon every spot where filth or moisture is apt to collect.

In places where remittent fever is apt to appear, every situation where water collects, ought to be drained, and brought to a level with the contiguous grounds; and the materials for filling up these hollows should consist of lime and sand, with a drain previously constructed to carry off the water. But when extensive marshes cannot be completely drained, it is perhaps adviseable not to diminish the

quantity of humidity they contain; and in this case probably the quicklime laid over their banks, but in greater quantity than when employed for similar purposes in other situations would answer the purpose, for extensive marshes, perhaps, only emit the peculiar vapour that occasions fever from the matters decaying at the margin. This practice is also to be recommended, when the source of the noxious gas is supposed to originate from matters cast upon the shore from the sea.

The lime employed for the purpose above mentioned must be newly burnt, immediate from the kiln, and before it has been exposed to the air; otherwise it loses the properties for which I recommend it as useful. Quicklime is a very caustic earth; and on being mixed with animal and vegetable matters, rapidly consumes their texture, and more quickly if they contain humidity, which is always the case in the circumstances favorable for generating Marsh Miasma. In this way it would appear that their elementary parts enter into new combinations, not obviously unfriendly to health; and from the heat that is generated by the slacking of the lime, a more rapid evaporation takes place, thereby preventing the decomposition of the water, and the consequent evolution of Miasma.

II.

Case of Epilepsy cured with Oleum Terebinthinæ. By David Plenderleath, M. D. Reading.

By periodical publications the effects of particular medicines are made known to the public. In this manner the benefit derived from the oxide of bismuth in diseases of the stomach, and from oil of turpentine in worms, has been promulgated. This latter medicine, however, has lately been used with success in Epilepsy (*vide Edinburgh Medical and Surgical Journal*, No. 35). The evidence of its success is yet but scanty; I therefore send you the following case, which will add to those on record, and will likewise be an early contribution to your Journal.

Sarah Hill, a young plethoric woman of eighteen, but of a florid complexion, and much inclined to corpulency, had been affected with fever six weeks since, and from that time had laboured under epileptic fits of such violence as to require strong coercive measures to keep her in the recumbent posture. The paroxysms attacked in regular succession with short intervals; she was aware of their approach by the sensation of cold arising from the lower extremities. The muscles of the arms

and legs, those of the lower jaw, and the flexors of the fingers, were particularly affected. Her general health was otherwise good; mental faculties a little impaired; catamenia regular but scanty; bowels rather costive. After the exhibition of an aloetic purge, three drachms of oil of turpentine were added to a pint of water, of which she took one ounce every four hours. The paroxysms after the first few doses were diminished both in violence and in duration, and as no bad consequences arose from the use of the turpentine, the dose of it was doubled. On the fourth day she perceived its operation pervade the whole system with the sense of warmth. Slight symptoms of fever were induced, and from this time the paroxysms ceased. It would seem probable that the modus operandi of the turpentine, consisted in producing an artificial fever, in consequence of which a different action was excited in the constitution, counteracting that inexplicable state on which Epilepsy depends.

March 11, 1814.

III.

An Account of a Peculiar Substance voided by Stool, with a Chemical Examination of its Properties; and some Observations on its Origin. By GEORGE MAN BURROWS, *Member of the Royal College of Surgeons, and of the Society of Apothecaries, London.*

Mrs. A., about forty years of age, and of a phlegmatic temperament, toward the end of last year (1813) miscarried, at the sixth week of gestation. She had not suffered much pain, and little hæmorrhage ensued; but a slight degree of languor and debility confined her to her room.

On Friday, December the third, she suffered an extraordinary attack of pain in the abdomen, which appeared to be in the intestinal canal, rather than in the uterus; it was accompanied, however, with a sensation of forcing down, or an expulsory effort, both of the vagina and rectum. In a short time this pain ceased; but so much faintness ensued, that it was with some difficulty she retired to bed.

Some hours after the cessation of this painful attack, the bowels were unloaded by a moderately copious and more easy evacuation than usual. A *white opaque substance* was observed floating on the urine and fecal matter then discharged. It resembled a piece of narrow tape folded like a skein of thread; and was put into a glass of clean spring water, for my examination on the following morning.

The portion, thus preserved, appeared quite free from any

admixture of other matters, and weighed nearly an ounce; but it was believed twice that quantity, which had been thrown away, had passed with the stool: the stool itself was of a natural consistence and colour. At the first glance, from its flattened vermicular form, I concluded this substance to be a portion of Tenia; but a nearer inspection convinced me of my error.

This lady had been in a delicate state of health for some years; frequent pregnancies and repeated abortions had considerably injured a constitution never robust. From the age of puberty she was subject to hæmorrhoids, and these, at times, were exceedingly tumid and painful: the rectum also was so much relaxed, that *prolapsus ani* usually followed every intestinal discharge. Although abstemious in diet, she was exceedingly dyspeptic; and the bowels had always been remarkably torpid. For these complaints she had too readily and indiscriminately taken almost every medicine recommended as an aperient.

To allay the nervous irritation under which she had so long laboured, she commonly took, at bed-time, thirty-five drops of tincture of opium. It is somewhat remarkable, that the habitual constipation was increased whenever the accustomed portion of this narcotic was omitted; and that, in her habit, aperients acted with more certainty and ease, when combined with small doses of opium. For more than a week prior to the discharge of this substance, she had lived entirely on milk and vegetables, chiefly gruel, tapioca, and tea. On Thursday morning, December the 2nd, she took an opening draught composed of mag. sulphatis ʒij. tinct. opii. ♏ xv. mist. camphorata ℥iss. This operated twice in the day. No medicine had been administered for some days before this draught.

Reiterated and severe sufferings from the hæmorrhoids determined her, about two years since, to consent to an examination of the part, with a view to permanent relief. Just round, and within the verge of the anus, there was a fasciculus of hæmorrhoidal tumours; and, as is common in such cases, there was one tumour in the center, inflamed, larger, and more painful than the others. Within the rectum there were considerable excoriations, with a slight ichorous discharge; and the passage was so exquisitely tender, that an examination of the intestine higher up was impossible. I did not hesitate to cut off the largest and central hæmorrhoid, agreeably to the recommendation of Mr. Ware (*vide Ware's Observations, &c.*) By this operation, she was completely relieved from the pain and irritation of this complaint; but the prolapsus still as often occurred after every discharge from the bowels, which seldom act without assistance. After passing the substance as above stated, Mrs. A. experienced an increase of dyspepsia, and a much greater

degree of debility, than she had usually felt, *ceteris paribus*, from any former abortion.

I am aware that substances in appearance similar to this have been remarked by others to have passed by stool, from dyspeptic and gouty patients; and I have reason to believe that such substances have sometimes, by cursory observers, been mistaken for portions of a Tenia. As I have never, however, heard of so large a quantity being voided, or that it had ever been chemically examined, I requested my friend Mr. A. T. Thomson to subject it to an analysis, of which the following is the result;

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Besides the sensible properties already noticed, this substance exhibited the following. A. It was tenaceous, and homogeneous in structure; appearing, when examined by a good microscope, to be composed of a congeries of perfectly round, opaque, beautifully polished globules. When exposed to the air on blotting paper, as the moisture was absorbed and evaporated, it became firm. Exposed to a red heat, it moved vermicularly like a quill when burning, emitting white fumes, with a strong odour of burnt feathers; and left a black cinder. With regard to its chemical properties, B, it was insoluble in water, unless violently agitated in a phial, or long triturated with this fluid, when a small portion was apparently dissolved, and the water became milky. On allowing the broken down matter, which produced the milkiness to subside, and evaporating the supernatant fluid, after passing it through a linen rag, imperfect gelatinization and coagulation took place.

C. Very little alteration was produced by boiling the substance in water, except that it appeared to be more firmly coagulated; and the same was the case, when it was treated with ether, alcohol, lemon juice, and acetic acid.

D. Acetate of lead (Goulard's extract), dropped into the water with which it was triturated, produced instantaneously a copious white curdy precipitate.

E. A saturated solution of oxymuriate of mercury produced a slight milkiness, but scarcely any precipitate.

F. A solution of galls produced, at first, scarcely any effect; but, after some time, a slight floculent precipitate was apparent.

G. Liquor potassæ quickly dissolved the entire substance, and formed with it a dark brown solution, which let fall a small portion of a light grey powder. H. Liquor ammoniæ appeared scarcely to act upon it, even when aided by heat. I. Concentrated sulphuric acid dissolved the entire substance; but

the solution was very slowly effected. K. Nitric acid almost instantly tinged it yellow; and some nitrous fumes were extricated. In a short time a kind of solution was effected, but it was not complete; and when water was added, opaque granules were copiously precipitated. The effect of muriatic acid was not tried. L. A bright piece of silver was put into the water in which the substance was triturated, after it had been inspissated by evaporation, and left for fifteen minutes: when taken out, it was discoloured in the same manner as a silver spoon with which a hard egg is eaten.

The conclusions to be drawn from these experiments are, that the substance submitted to examination consisted chiefly of animal mucus, (D. I.) combined with a small portion of albumen (E. G.), and gelatin (F.). It is probable that the sulphuretted hydrogen (L.) was the result of some change, produced during the evaporation of the fluid, or from some portion of the feces still remaining, which always contain sulphuretted hydrogen.

OBSERVATIONS.

Such were the chemical properties of this substance, but the examination left the pathological question still undecided.—Dr. Bostock observes that, "Mucous fluids differ from the albuminous, and may be considered the products of secretion rather than of transudation; and that the albuminous fluids seem to be all confined in close cavities, the mucous fluids, in their natural state, are poured out into passages that communicate with the external surface of the body. It is not possible to collect and examine these fluids in the same manner with albuminous; they are secreted gradually, and are discharged as they are secreted*."

This substance, although in a half-organized state, yet approached nearer to the character of the mucous fluid of the cavities, and excretory passages, as fixed by the correct analysis of that able chemist†, than any other animal matter: but that it was not the common mucus of the alimentary canal inspissated, is, nevertheless, very evident from the presence of albumen.

If the circumstances attending its passage from the body be reconsidered, the facility with which it was passed, and the absence of pain, the sudden syncope, and the prostration of strength which immediately followed, perhaps a conjecture might be advanced, that it originated in a retrograde action of

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* See Transactions of the Medico-Chirurgical Society, vol. iv. p. 75.

† Idem, p. 78.

the lymphatics: and this opinion seems rather confirmed by the following observation of Berzelius on the nature of the fluids contained in these vessels. "The lymph varying in its modifications according to the place from which it has been extracted, is, also, but little known. We have hitherto only a single analysis of it, which however affords us considerable information. It was instituted by Emmert and Reuss, and the result of it was, that the lymph resembles serum in its appearance; and, when observed with a compound microscope, is perceived to be a complete chemical solution, *but it thickens after some time, and becomes a coagulum,* which is altogether like the fibrin of the blood. This humour consequently contains dissolved fibrin, from which we further infer that the serum, which penetrates the reproducing capillary vessels, must also contain it; and if the fibrin is here coagulated from a complete solution, the same must be the case in the blood*." If the above conjecture be admitted, it is easy to account for the sudden prostration of strength, and long continued debility which succeeded the passage from the intestines of the matter under consideration.

The advantages to be derived from the cultivation of Animal Chemistry are now appreciated as they ought to be; and, the present paper is presented rather as an incitement to the chemical investigation of morbid productions, than with any idea, that much importance can be attached to it in a pathological point of view.

Bloomsbury Square, January 1814.

*** A substance very much resembling that described in the above Paper, both in its sensible qualities, and in some degree in its chemical properties, is mentioned by Dr. Bostock, in the very valuable Paper on the Analysis of Animal Fluids, to which I have before referred. It was, however, discharged from the urinary bladder.

IV.

Case of Hydrocephalus Internus, arising from Concussion, successfully treated. By I. G. Croker, Surgeon-Apothecary, Bovey-Tracey, Devon.

The treatment of the two cases of Hydrocephalus Internus, detailed by Mr. A. T. Thomson in the first Number of the Repository, confirms the propriety of the practice which I have

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* Berzelius' View of the Progress and Present State of Animal Chemistry. *Translation*, p. 46.

for some time pursued in this too often untoward disease. The following is a case of it, originating from external violence, which terminated successfully by promoting ptyalism.

Before commencing my account of the case, I cannot avoid noticing the observation of Dr. Cheyne, in his Third Essay on the Diseases of Children—"That in upwards of a hundred cases which he had attended, he had only met with one in which external violence could be considered as the origin of the disease; and that in an indirect manner." The Doctor farther observes—"That when the disease is known to exist, there ought to be no other delay than that occasioned by our endeavours to subdue the disorder in the bowels, in commencing a mercurial course, which, it must be allowed, has cured Hydrocephalus when far advanced." Rules from such authority ought not to be disregarded. My only object in bringing forward the present case, is to substantiate the practice; and to hold forth encouragement to others, to rely on the influence of this active mineral in similar cases.

In the case about to be detailed, the disordered state of the bowels could not be regulated, owing to the continued irritability of the stomach, which prevented the exhibition of purgatives.

A. P. æt. 18, was in the full enjoyment of good health, and with every appearance of possessing it; although she had never menstruated. Three months prior to her illness, however, she complained of the usual symptoms which precede menstruation; and particularly so three days before meeting with the accident which occasioned her attack. December the 24th, 1813, she received a violent blow, which stunned her, and left a superficial wound over the left eye-brow, She did not recover her recollection for ten minutes; and, in a few hours afterwards, sickness, and other symptoms of concussion of the brain, came on. I was called in soon after the symptoms appeared; and found the pulse strong, full, and beating 110 in a minute. She had much heat of skin, and complained of considerable pain of the head. I immediately bled her, and abstracted fully f ℥ xx of blood: ordered a strict adherence to the antiphlogistic regimen; and prescribed a calomel bolus, with a dose of salts. She was also directed to keep as much as possible in the erect posture, and in a darkened room.

December 25th, the following day, I found all her complaints aggravated; and it was not until January the 4th, 1814, that the inflammatory symptoms began to subside. In the interim, more than sixty ounces of blood were abstracted from the arm, and the temporal artery: leeches were applied, and also several blisters, which discharged well. Her head was then shaved, and two large blisters applied over it, at different

times. Laxative and saline medicine, in various forms, were frequently exhibited; but the stomach constantly ejected every thing a few moments after it was taken. This symptom continued until the 7th of January; after which time, the sickness recurred once or twice only during the day. The pulse never exceeded 116 beats in a minute. The bowels were emptied by glysters, which brought away feces sometimes of a clay colour and extremely offensive, and sometimes black.

As the inflammatory symptoms disappeared, the pain of the head abated; and I flattered myself with the immediate recovery of my patient. Her mental faculties had been hitherto unimpaired; but on the 10th of January, I was informed that she was talking incoherently, and of ideal objects. On examination I found this report to be correct; from which, and other symptoms, there was every reason for apprehending that effusion had taken place. Some days afterwards she had a convulsion fit, which lasted for an hour, during which time the vital functions seemed suspended, and the pulse was scarcely perceivable. Each succeeding day, now, produced fresh proofs of the existence of the pathognomic symptoms which characterise Hydrocephalus: and the case being considered hopeless, ptyalism was proposed to her friends as a dernier resort. At first, they objected to this proposal; but on being informed that her suffering would not be increased by it, and it might afford her some chance of recovery, they consented.

January the 18th, half an ounce of strong mercurial ointment, with a solution of carbonate of ammonia, was ordered to be well rubbed on the inguinal and subaxillary glands, once in twenty-four hours; and the following powder to be taken every four hours.

℞. Submuriatis Hydrargyri
Pulv. Cretæ pp. aa. gr. iij. Misce.

She had already taken one hundred and thirty-five grains of submuriate of mercury.

In the space of four days the system was affected; and, within a few hours of the accession of increased saliva, a favorable change was perceptible. The sickness, and every other distressing symptom, gradually left her; and the alvine evacuations assumed a natural aspect. The ptyalism was kept up till the end of February; at which time the convalescence was complete; and she is now free from every complaint; but has not yet menstruated.

I conceive that in this case a fair trial of the effects of mercury, in promoting absorption in the brain, was given. There were no anomalous symptoms present; and the cause of the attack had been ascertained.

Feb. 16, 1814.

V.

Case of Injury of the Brain. By William Vise, Surgeon-Apothecary, Spalding.

Sunday, August 1, 1813. The son of Mr. W. Thorpe, of Moulton, aged between two and three years, received a violent kick on the head from a horse. I found the child insensible, with a dreadful fracture of the os frontis. The pulse was scarcely perceptible. On a more close examination of the injured part, I found that a portion of the frontal bone, with a great part of the orbit of the eye, were driven in, and had penetrated both the dura and pia mater into the substance of the brain. These I immediately extracted with the forceps, and within five minutes from removing them, the pulse improved, and the countenance evidently indicated returning animation and sense. I then made a crucial division of the scalp, but discovered no farther injury of the cranium. I therefore broke off the jagged edges of the shattered bone round the wound, as neatly as I could, carefully removing every splintered portion I could find, and brought the integuments over the chasm by two sutures, which I found necessary, as the laceration extended from the eye to nearly the top of the os frontis.

I took away some blood; administered a purge, and prescribed a saline mixture.

Monday the 2nd. The child was doing well, though the purge had not operated, and there was some fever, and restlessness.

Tuesday the 3d. No stools; yet the fever was not increased. I ordered a glyster to be thrown up; but the operation did not succeed. The opening medicine was continued. The eye being much inflamed, a cooling lotion was applied.

Wednesday the 4th. The bowels had freely acted. The patient's health was improved. A healthy discharge from the wound was commencing.

Thursday the 5th. Being quite free from fever, the saline mixture was discontinued. The state of the bowels was ordered to be strictly attended to, and the lotion continued to the eye.

Friday the 6th. The dressings were first removed. Found a complete union of the scalp. The throbbing of the brain was very visible through the integuments. From this to the 19th, I attended to the child without the intervention of any circumstance to retard his recovery.

I recommended that the part should be guarded, as well as possible, by a covering of stiff pasteboard; trusting that Nature,

in a subject so young, would, by her own process, soon provide a natural defence.

Perhaps injuries to the brain to a greater extent, and which have terminated favorably, have occurred, and are recorded; but it rarely happens, I believe, that so little derangement of the general health takes place as was exhibited in this case.

Feb. 10, 1814.

VI.

An Instance of the Deleterious Effect of Oxalic Acid. By William Royston, F.L.S. &c. &c. &c.

Miss M. P——, about thirty years of age, at eight o'clock on Wednesday morning, March the 30th, took a quantity of *oxalic acid* dissolved in water, about half an ounce as was described by a servant, mistaking it for sulphate of magnesia. In half an hour after this I saw her. The countenance then indicated the most pressing danger; the pulse at the wrist was imperceptible; she had vomited a dark coloured fluid; had extreme catharsis, and was evidently suffering by excessive tormina. In ten minutes she expired, and forty from the time of taking the deleterious potion.

Twenty-eight hours after death, the body was examined, and presented the following appearances:

SECTIO CADAVERIS.

The abdominal cavity was not distended with flatus; there were no visible ecchymoses, or external depositions of blood, except in a slight degree on one thigh.

External surface of the Abdominal Viscera.—The peritoneal surface of the stomach displayed an unusual degree of vascularity, and there was an obvious division of that organ into two portions, cardiac and pyloric, by a contraction of muscular fibre. On raising the omentum-gastro-colicum, a high degree of inflammation was seen extending over the intestinum ileum, to within a few inches of the colon. The colon itself was completely contracted throughout, and was altogether free from inflammation: but slight indications of increased vascularity could be traced on the jejunum and duodenum.

Internal state of the Stomach.—The only material contained in the stomach was twelve or fourteen ounces of a dark-coloured fluid. The villous coat was injected with blood, and florid over its whole surface, which was increased, in patches, to an extraordinary intensity. There was the clearest evidence of

inflammation having extended over the whole internal surfac of this organ.

Thorax.—The thoracic viscera was healthy; but the thymus gland was much larger than is generally found, even in young subjects.

Head.—A considerable quantity of limpid fluid was effused between the tunica arachnoidea and the pia mater, separating these membranes from each other about a quarter of an inch. The medullary substance of the brain was unusually white, and the plexus choroides was much more pallid than is common to that congeries of vessels. There was no appearance in the brain from which it could be inferred that the sensorium commune was otherwise affected than by the effusion of the limpid fluid between the two meninges, and the paucity of blood in the plexus choroides.

The substance which occasioned this sudden extinction of the vital principle, has not ever, as far as I yet know, been employed medicinally. Its sensible quality is an excessively pungent acidity, approaching to that of the mineral acids; and its action on the animal system, probably that of a powerfully exhausting stimulant.

For a more correct knowledge of its composition and properties, than I before possessed, I am indebted to a highly intelligent Chemist, Mr. Hume, who has communicated to me, in the following letter, several facts respecting the *oxalic acid*, some interesting observations on its affinities, and, possibly, a true explanation of its deleterious *modus operandi*.

"Dear Sir, *Long Acre, April* 13, 1814.

"The crystals which I received from you prove to be pure *oxalic acid*, containing no other substance whatever, not even of the nitrous acid with which this acid is usually prepared. It readily decomposed both sulphate, nitrate, and muriate of lime; it required the same quantity of ammonia for its saturation as some oxalic acid which I had carefully prepared myself, on which I could depend for perfection; and, in short, by the figure of the crystals, and particularly by the usual tests to fix its superior attraction for lime, the identity of this acid was fully established.

"Vegetable acids are composed chiefly of three elementary substances, of *oxygen*, *carbon*, and *hydrogen;* and the oxalic acid differs from the citric, tartaric, malic, and others of this class, only in the proportions of these materials. It would be in vain therefore to look to this source for the noxious and deleterious quality, now for the first time discovered to be in this vegetable acid, and ascribe it to a predominance of any one of its elements alone.

"There are many things which, in ordinary language, we do not consider as poisons, although when administered in quantity, they will effectually destroy life. Thus brandy, rum, and other liquors containing alcohol, may be denominated poisons; and the vegetable acids may also become equally destructive when taken in excess. The vegetable acids have been recommended and prescribed, indeed almost indiscriminately, by Mr. Brande*, for diminishing or preventing those urinary secretions commonly called *white sand*, or the phosphate of lime and the ammoniaco-magnesian phosphate; although the citric acid seems to have been principally employed by that gentleman, who gave as far as a scruple for a dose, and with evident advantage to the patients. Should oxalic acid in the same dose and properly diluted prove injurious by inducing in any degree a derangement of the system, we should then be led to question the safety of employing this particular acid as an internal remedy.

"It is well known that *phosphate of lime* prevails, and is a very important and abundant article of the animal frame; for even the brain itself is not exempt, and almost all the fluids contain either the phosphate or super-phosphate of lime. Now, the very energetic attraction which oxalic acid and lime have for each other, may offer for your contemplation the probable and proximate cause of death in the case which you mentioned to me, and which was occasioned by imprudently taking a quantity of this vegetable acid.

"Oxalic acid and the super-oxalate of potash have been taken internally in small quantities, and with no bad consequences. The last of these is sold in the state of a powder under the name of *salt of lemons*. The chief purposes to which the acid itself is applied, are to clean leather, such as the tan-colour harness, bridles, saddles, boot-tops, &c. and to efface iron mould and ink spots. This acid has also been, and I believe continues to be used by the calico-printers to effect particular purposes, such as partially depriving the goods of colour.

"I remain, Sir, your obedient servant,

"*W. Royston, Esq.* JOS. HUME."

THIS short history of the fatal effects of a chemical substance, perhaps now for the first time known to possess the power of destroying life with such fatal rapidity; connected with the appearances produced by it on the stomach, the intestines, and the brain; and an exposition of its chemical composition, combinations, and affinities, may not be altogether useless in physiological and pathological researches.

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* Philosophical Transactions, p. 11, 1813.

The medium by which *oxalic acid*, taken into the stomach of a previously healthy person, could extinguish vitality in forty minutes, is a question not of easy solution; and possibly an acquaintance with the science of life is not yet sufficiently perfect to afford a satisfactory explanation.

The state of the stomach inflamed indeed and highly disordered, but not visibly even approaching to sphacelus, presents no comprehensible exposition of the direct cause of a death, which seems to have been produced by a sudden exhaustion of some material yet unknown, but essential to the exercise of the functions and principle of life. In thirty minutes after the *oxalic acid* was swallowed, the extremities were cold, the surface over the frame pallid and fallen, the face denoting the approach of death, the heart and arteries ceasing to push the blood to the extreme parts; but so much of intelligence remained as enabled the patient to exclaim she was dying. At this time, when the general sensibility and vital powers of the frame were nearly extinguished, there was, if it may be so judged from the writhing and drawing up of the inferior extremities, and an application of the hands to the scorbiculus cordis, an excessively painful action going on in the stomach and intestinal canal. In a few minutes from this time, the patient ceased to breath.

The remark, by Mr. Hume, that as phosphate of lime is an abundant and important article in the composition of the animal frame; and as there exists actually a most energetic attraction of oxalic acid and lime for each other, might not this attraction be contemplated as the proximate cause of death in this case, is highly ingenious. In the gloom and obscurity which still hangs upon the properties and actions of the vital principle, whatever has the appearance of tangibility, affords some satisfaction. The degree of injury done to the organization of the stomach in this instance, offers, certainly, no reasonable solution of the fatal termination; but whether the difficulty is removed better by admitting some alteration among the constituent materials of the brain, by a chemical affinity; or by a reference to some state of greatly diminished or exhausted nervous energy, will not easily be determined. If the principle of life, the capacity of being acted upon and of reciprocal reaction, the excitability of Brown, be intended by nature to be duly distributed throughout the frame, and in a healthy condition is so distributed, and this equality of distribution be a sine qua non of vitality; if this principle has the capacity of being excited to action, and can be exhausted by the application of stimulants, can it be then understood that the exhaustion may go to the extent of destroying life? If this be admitted, then may it be inferred that some new, peculiar, and exhausting stimulant, applied in an excessive dose to the sto-

mach, may carry off or dissipate the principle of life, the property of being excited, with such sudden rapidity, as to leave the brain in a state of exhaustion incompatible with a continuance of the living state.

The great excitement in the stomach, and the accumulation of the arterial vital fluid in that organ, compared with the unusual paucity of blood in the brain, and at the extremities, seems to countenance some such conclusion; and in the absence of a more rational explanation, may serve, at least, to exercise the ingenuity of Physiologists. As a mere hypothesis, this is, however, of very little value; and, unless it could be supported by a large induction of facts, deserves no regard. But, be this as it may, the circumstance of a new stimulant, containing, probably, a super-abundance of oxygen, applied to the stomach in a given quantity, and proving destructive of life in so short a period, without destroying the material organization of any part of the body, and acting only as it seems upon some unknown immaterial principle, whether denominated, with Brown, *excitability*, with Darwin, *sensorial power or spirit of animation**, or, more popularly, the *vital principle*, deserves the consideration of the MEDICAL PHILOSOPHER.

Princes Street, Cavendish Square,
April 14, 1814.

VII.

AGREEABLY to the expectation we expressed in our last Number, we now publish

A BILL *for* ENLARGING *the* CHARTER *of the* SOCIETY *of* APOTHECARIES *in the* CITY *of* LONDON, *granted by* His Majesty King James the First, *and for better regulating the* Practice *of* Apothecaries *throughout* England *and* Wales.

THE Preamble recites and embraces the whole of the said Charter, for which see THE LONDON MEDICAL REPOSITORY, No. 2, page 156.

It then proceeds:—

And whereas some of the clauses and provisions contained in the said recited Charter, so far as the same regard the said Society of Apothecaries, have been found inadequate for the purposes thereby intended, and it is therefore expedient that

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* The spirit of animation is the immediate cause of the contraction of animal fibres; it resides in the brain and nerves, and is liable to general *diminution* or *accumulation*. ZOONOMIA, Sect. iv. 2.

the same should be altered, varied, and enlarged, and further and other provisions made:

May it therefore please Your Majesty,

That it may be enacted, and be it enacted by the KING's Most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, That the said recited Charter of the thirteenth year of the reign of His Majesty King *James* the First, and all and every the powers, provisions, penalties, forfeitures, regulations, clauses, matters, and things therein contained, (save and except such part or parts thereof as are hereby altered, varied, or repealed,) shall be, and the same is and are hereby ratified and confirmed, and declared to be in full force and virtue, and shall be as good, valid, and effectual, to all intents and purposes whatsoever, as if the same had been repeated and set forth in the body of this Act.

And be it further enacted, That so much of the said recited Charter as directs, " That the said Master and Wardens, and " their successors, or one or more of them, or some Assistants " by the Master and Wardens to be appointed and assigned, " at fit and convenient times, and in manner and form conve- " nient and lawful, from time to time, as often as to the said " Master and Wardens shall seem meet and expedient, shall " and may go and enter into any shop or shops, house or " houses, cellar or cellars, of any persons whatsoever using " or exercising the Art or Mystery of Apothecaries or any " part thereof, within the City of London, the liberties or " suburbs thereof, or within seven miles of the same city, " as well within the liberty as without, where any medicines, " simple or compound, wares, drugs, receipts, distilled waters, " chemical oils, syrups, conserves, electuaries, pills, powders, " troches, oils, ointments, emplasters, or any other things " whatsoever, which belong or appertain to the Art or Mystery " of Apothecaries as is aforesaid, shall be probable and likely " to be found; and to search, survey, and prove if the same " medicines, simple or compound, wares, drugs, receipts, dis- " tilled waters, chemical oils, syrups, conserves, eclegmatas, " electuaries, pills, powders, troches, oils, ointments, emplas- " ters, or any thing or things whatsoever belonging to the Art " or Mystery of Apothecaries aforesaid, be and shall be whole- " some, medicinable, meet, and fit for the cure, health, and " ease of His Majesty's subjects;"

And also so much of the said recited Charter as directs, " That the aforesaid Master and Wardens of the Mystery " aforesaid, and the said Assistants for the time being, there-

" unto nominated and appointed by the Master and Wardens, " and their successors, from time to time, may have, and by " virtue of these Presents, shall have full power and authority " to examine and try all and singular persons professing, " using, or exercising, or which hereafter shall profess, use, or " exercise the Art or Mystery of Apothecaries, or any part " thereof, within the aforesaid City of London, the liberties or " suburbs thereof, or within seven miles of the same city, as " well within liberties as without, touching or concerning their " and every of their knowledge, skill, and understanding in " the aforesaid Art or Mystery of Apothecaries, and to remove " and prohibit all those from the exercise, use, or practice of " the said Art or Mystery, whom hereafter they shall find " either unskilful, ignorant, or insufficient, or obstinate, or re- " pugnant to be examined by virtue of these Presents, in the " Art or Mystery aforesaid. And also all and singular medi- " cines, wares, drugs, receipts, distilled waters, oils, chemical " preparations, syrups, conserves, eclegmatas, electuaries, pills, " powders, troches, oils, ointments, and plaisters, and all other " things belonging to the aforesaid Art, which they shall find " unlawful, deceitful, inveterate, out of use, unwholesome, cor- " rupt, unmedicinable, pernicious, or hurtful, to burn before " the offender's doors. And also they may lay, impose, and " execute punishments, and other pains and penalties, by " fines and amerciaments, upon such offenders, according to " their sound discretions, and the ordinances by them and " their successors so as aforesaid to be made and appointed," shall be, and the same is hereby repealed.

And be it further enacted, That in lieu and stead thereof, the said Master, Wardens, and Society of Apothecaries for the time being, and their successors, or any of the Assistants by the Master and Wardens to be nominated and assigned, shall and may from time to time, and at all seasonable and conveni- ent times, in the day time, as often as to the said Master and Wardens it shall seem expedient, go and enter into any shop or shops, house or houses, of any person or persons whatever using or exercising the Art or Mystery of an Apothecary, in any part of *England* or *Wales*, where any medicines, simple or compound, wares, drugs, receipts, distilled waters, chemical oils, syrups, conserves, eclegmatas, electuaries, pills, powders, troches, oils, ointments, emplasters, or any other things whatso- ever, which belong or appertain to the Art or Mystery of Apo- thecaries as is aforesaid, shall be probable and likely to be found; and shall and may search, survey, and prove if the same medicines, simple or compound, wares, drugs, receipts, distilled waters, chemical oils, syrups, conserves, eclegmatas, electuaries, pills, powders, troches, oils, ointments, emplasters,

or any thing or things whatsoever belonging to the Art or Mystery of Apothecaries aforesaid, be wholesome, medicinable, meet, and fit for the cure, health, and ease of His Majesty's subjects; and all and every such medicines, wares, drugs, receipts, distilled waters, oils, chemical preparations, syrups, conserves, eclegmates, electuaries, pills, powders, troches, oils, ointments, and plaisters, and all other things belonging to the aforesaid Art, which they shall find unlawful, deceitful, stale, out of use, unwholesome, corrupt, unmedicinable, pernicious, or hurtful, shall and may burn before the doors of the delinquents, and also shall and may impose and levy the following fines and penalties upon each and every of such delinquents, as hereinafter mentioned: For the first offence the sum of for the second offence the sum of and for the third, and every other offence, the sum of

And be it further enacted, That if any Apothecary shall, at any time from and after the passing of this Act, falsely, fraudulently, unfaithfully, or unduly make up, prepare, compound, sell, or administer any drugs or ingredients which may have been directed by any Physician lawfully authorized to practise physic, in any prescription, order, or recipe, signed with his initials in his own hand-writing, such Apothecary so offending shall, unless he shall plead some satisfactory reason, excuse, or justification, forfeit and pay, for the first offence, the sum of for the second offence, the sum of and shall, if he shall again offend, and be thereof a third time convicted, be disabled from again practising as an Apothecary.

And be it further enacted, That it shall and may be lawful for the said Master, Wardens, and Society of Apothecaries as aforesaid, and they are hereby empowered, after the passing of this Act, to contract and agree for the purchase of any lands, tenements, and hereditaments situate near or adjoining to their Hall, in the parish of *Saint Anne, Blackfriars*, in the City of London, not exceeding acres in the whole, with any person or persons who shall be willing to sell the same, for the purpose of adding to the erections and buildings, or making approaches to the same, as shall be necessary to the carrying on of the concerns of the said Society: And it shall and may be lawful for the said Master, Wardens, and Society of Apothecaries as aforesaid, to hold such lands, tenements, and hereditaments, so purchased, without incurring or being subject to any of the penalties or forfeiture of the statutes of Mortmain, or of any of them, or of any other law, statute, or usage whatsoever to the contrary thereof notwithstanding.

And whereas much mischief and inconvenience has arisen, from great numbers of persons in many parts of this Kingdom exercising the functions of an Apothecary, who are wholly ignorant, and utterly incompetent to the exercise of such functions, whereby the health and lives of the Community are greatly endangered; and it is become necessary that provision should be made for remedying such evils;

Be it therefore further enacted, That the said Master, Wardens, and Society of the Art and Mystery of Apothecaries of the City of London, incorporated by the said recited Charter of His Majesty King *James* the First, and their successors, shall be, and they are hereby appointed and constituted, directed and empowered, for ever to superintend the execution of the provisions of this Act, and to enforce and carry the several regulations and provisions thereof, in relation to the several persons practising the Mystery or Profession of an Apothecary throughout *England* and *Wales*, and all other the purposes of this Act, into full execution.

And be it further enacted, That no act of the said Master, Wardens, and Society of Apothecaries incorporated as aforesaid, for the carrying any of the powers and provisions of this Act into execution, shall be or be deemed to be good or valid (save and except as to such acts as shall be done by the said Master, Wardens, and Assistants, or any of them, in pursuance of the powers and authorities hereinbefore given to them to enter into shops to search for, examine, and destroy unwholesome drugs or medicines, and to impose and levy fines on the person or persons having the same in his, her, or their possession), unless the same be done at some assembly or meeting to be holden by the said Master, Wardens, and Society, in the Hall of the said Society. And that all the powers and authorities by this Act granted to, or vested in, or directed or required to be done by the said Master, Wardens, and Society as aforesaid, shall and may from time to time be exercised by the Master, Wardens, and Assistants of the Art and Mystery of Apothecaries aforesaid for the time being, or by the major part of them present, who shall attend at any such assembly or meeting to be holden as aforesaid (the number present at such assemblies or meetings not being less than   of which the said Master for the time being shall always be one), and all the orders and proceedings of the said Master, Wardens, and Assistants for the time being, or of such major part as aforesaid, shall have the same force and effect, as if the same were made or done by the said Master, Wardens, and Society of Apothecaries incorporated as aforesaid.

And be it further enacted, That for the purposes of this

Act, so far as the same regards the examination of Apothecaries, and Assistants to Apothecaries, there shall be

the said Society of Apothecaries to be chosen and appointed by the said Master, Wardens, and Assistants for the time being, (who are hereby authorized and empowered to choose and appoint such persons, and to remove or displace them from time to time, as they the said Master, Wardens, and Assistants for the time being shall deem adviseable,) and such persons, when so chosen and appointed, shall be and be called the Court of Examiners of the Society of Apothecaries; and such Court of Examiners, or the major part of them, shall have full power and authority, and are hereby authorized and empowered to examine all Apothecaries, and Assistants to Apothecaries, throughout *England* and *Wales*, as hereinafter mentioned, and to report to the Master, Wardens, and Assistants of the said Society, on the fitness or qualification of any person or persons by them examined, to act as an Apothecary, or Assistant to an Apothecary, as the case may be.

And be it further enacted, That all persons so to be chosen and appointed Examiners as aforesaid shall continue in office for the space of one year from the time of their appointment, (except in case of death, or being removed or displaced by the said Master, Wardens, and Assistants as aforesaid.) Provided always, That it shall and may be lawful to and for the said Master, Wardens, and Assistants, again to choose and appoint any such person or persons going out of office, again to be an Examiner or Examiners, as aforesaid, if they the said Master, Wardens, and Assistants, shall deem it adviseable so to do.

And be it further enacted, That in case any person or persons so to be chosen and appointed shall happen to die during the time he or they shall continue to be an Examiner or Examiners, or be removed or displaced as aforesaid, then it shall and may be lawful for the said Master, Wardens, and Assistants, to choose and appoint any other person or persons of the said Society to be an Examiner or Examiners as aforesaid, in the room of the person or persons so dying, or removed, or displaced as aforesaid; and every person or persons so chosen and appointed shall continue in office for such time, and no longer, as the person or persons in whose room or stead he or they shall be so chosen and appointed, would have continued in office.

And be it further enacted, That it shall and may be lawful to and for the said Master, Wardens, and Assistants for the time being, to call upon the President and Four Censors or Governors of the College and Community of Physicians of

London, or other Physicians or other Physician by the President aforesaid to be named for that purpose, to assist and be present at every or any examination of any person or persons applying to be examined as aforesaid; and such President, Censors, or other Physicians or Physician so to be nominated (if any), shall and may be, by the said Master, Wardens, and Assistants, added to, and made part of the said Court of Examiners for the time being, but so as no act to be done by the said Court of Examiners shall be void, or rendered illegal and ineffectual, for the want of attendance of the said President, Censors, or other Physicians or Physician, as aforesaid.

And, to prevent any person or persons from practising as an Apothecary, without being properly qualified to practise as such, Be it further enacted, That from and after the day of in the year it shall not be lawful for any person or persons (except persons already in practice as such) to practise as an Apothecary in any part of England or Wales, unless he or they shall have been examined by the said Court of Examiners, or the major part of them, and have received a certificate of his or their being duly qualified to practise as such, from the Master, Wardens, and Society of Apothecaries as aforesaid; who are hereby authorized and required to examine by the said Court of Examiners, or the major part of them, all person and persons applying to them for that purpose, as to his or their fitness and qualification to practise as an Apothecary; and the said Master, Wardens, and Society, are hereby empowered either to reject such person or persons, or to grant a certificate of such examination, and of his or their qualification to practise as an Apothecary as aforesaid: Provided always, That no person shall be admitted to such examination until he shall have attained the full age of twenty-one years.

Provided always, and be it enacted, That no person (except such as shall be actually bound by proper indentures, or shall have commenced a course of Medical Studies at the time of passing this Act) shall be admitted to any such examination for a certificate to practise as an Apothecary, unless he shall have served an apprenticeship of not less than years to an Apothecary, and shall produce other testimonials to the satisfaction of the said Court of Examiners, and of the said Master, Wardens, and Society of Apothecaries as aforesaid, of a sufficient medical education, and of a good moral conduct.

And be it further enacted, That every person intending to

qualify himself under the regulations of this Act to practise as an Apothecary in any part of England or Wales, shall give notice to the clerk of the said Master, Wardens, and Society of Apothecaries as aforesaid, of his intention so to do, who shall notify the same to the said Master, Wardens, and Society of Apothecaries as aforesaid; and the person so intending to qualify himself shall present himself at the meeting held by the said Court of Examiners next succeeding such notice, and shall undergo such examination by the said Court of Examiners as aforesaid, or at some other meeting, as shall or may be appointed and fixed upon by the said Master, Wardens, and Society of Apothecaries as aforesaid, for that purpose.

And be it further enacted, That from and after the day of in the year it shall not be lawful for any person or persons (except the persons then actually acting as Assistants to any Apothecaries as aforesaid) to act as an Assistant to any Apothecary, to compound or dispense medicine, without undergoing an examination by the said Court of Examiners, or the major part of them, and obtaining a certificate of his or their qualification to act as such Assistant, from the said Master, Wardens, and Society of Apothecaries as aforesaid (who are hereby authorized and empowered to examine, by the said Court of Examiners, or the major part of them, all persons applying to them for that purpose, and to grant a certificate of such fitness and qualification).

Provided always, and be it further enacted, That every Assistant applying for examination as aforesaid to the said Master, Wardens, and Society of Apothecaries, shall in like manner as is directed with regard to persons applying for examination as Apothecaries, give notice to the clerk to the Master, Wardens, and Society of Apothecaries as aforesaid of his intention so to do; and shall, at the meeting at which such Examination takes place, produce and shew to the said Court of Examiners such testimonial as the said Master, Wardens, and Society of Apothecaries as aforesaid shall require, who are hereby authorized and empowered to refuse to examine, and reject every person applying to qualify as an Assistant to any Apothecary, to compound and dispense medicines, who shall be unable to produce such testimonial as the said Master, Wardens, and Society of Apothecaries as aforesaid shall require.

And be it further enacted, That the sum of shall be paid to the said Master, Wardens, and Society of Apothecaries, for every such certificate as aforesaid, on obtaining the same, by every person intending to practise as an Apo-

thecary; and the sum of by every Assistant; and the several sums of money arising from the granting of such certificates shall be applied in manner hereinafter directed.

And be it further enacted, That if any person (except such as are then actually practising as such) shall, after the said day of act or practise as an Apothecary in any part of England or Wales, without having obtained such certificate as aforesaid, every person so offending shall, for every such offence, forfeit and pay the sum of and if any person (except such as are then actually practising as such) shall, after the passing of this act, act as an Assistant to any Apothecary, to compound and dispense medicine, without having obtained such certificate as aforesaid, every person so offending shall for every such offence forfeit and pay the sum of

And be it further enacted, That no Apothecary shall be allowed to recover any charges claimed by him in any Court of Law, for medicines or for attendances, visits, or journies, unless such Apothecary shall prove on the trial that he was in practice as an Apothecary prior to or on the said day of in the said year or that he is duly licensed to practise as an Apothecary by the said Master, Wardens, and Society of Apothecaries as aforesaid.

Provided always, and be it further enacted, That if the said Master, Wardens, and Society of Apothecaries as aforesaid, shall, from the report of the said Court of Examiners, or the major part of them, examining any person or persons applying to qualify himself or themselves to practise as an Apothecary, or as an Assistant to an Apothecary, to compound and dispense medicines, shall see cause to refuse such certificate as aforesaid to any such person or persons so applying to qualify himself or themselves as an Apothecary or Assistant as aforesaid; yet it shall and may be lawful for such person or persons who shall be so refused, to apply at any future time, so that such second application by any person or persons applying to qualify himself or themselves as an Apothecary, or Assistant, be not within months of such first examination, to be again examined; and if on such re-examination he or they shall appear to the persons examining, to be then properly qualified, it shall and may be lawful for the said Master, Wardens, and Society of Apothecaries as aforesaid, to grant such person or persons so applying such certificate as aforesaid.

And be it further enacted, That all and every sum or sums

of money which shall be received or arise from the granting of the certificates of examination hereinbefore required, shall belong to, and be appropriated and disposed of by the said Master, Wardens, and Society of Apothecaries as aforesaid, in such manner as they shall from time to time direct and deem most expedient.

And be it further enacted, That all sum and sums of money arising from conviction and recovery of penalties for offences committed against the authorities and provisions of this Act, shall be applied and disposed of in manner following; (viz.) One moiety thereof to the Informer or Informers, and the remaining moiety to the said Master, Wardens, and Society of Apothecaries as aforesaid, to be appropriated and disposed of by them in such manner as they shall deem most expedient.

And be it further enacted, That all penalties and forfeitures by virtue of this Act imposed (the manner of levying and recovering whereof is not otherwise hereby particularly directed), shall, if such penalties and forfeitures shall exceed the sum of be recovered by action or suit at law in any of His Majesty's Courts of Record in England or Wales, wherein no essoign, protection, or wager at law, or more than one imparlance shall be allowed; and if such penalty or forfeiture shall be less than the sum of then the same shall be levied and recovered by distress and sale of the goods and chattels of the offender, by warrant under the hand and seal of any Justice of the Peace acting for any county, city, town, or place where the offence shall be committed (which warrant such Justice is hereby empowered and required to grant upon the confession of the party, or upon the evidence of any credible witness upon oath; and which oath such Justice is hereby empowered to administer); and the overplus (if any) of the money arising by such distress and sale, shall be returned upon demand to the owner of such goods and chattels, after deducting the costs and charges of making, keeping, and selling the distress; and in case sufficient distress shall not be found, or such forfeitures and penalties shall not be paid forthwith, it shall be lawful for such Justice, and he is hereby authorized and required, by warrant under his hand and seal, to cause the offender to be committed to the common gaol for the county, city, town, or place where the offence shall be committed, there to remain without bail or mainprize for any time not exceeding calendar months, unless such penalties and forfeitures, and costs, shall be sooner fully paid and satisfied.

And be it further enacted, That where any distress shall be

made for any sum of money to be levied by virtue of this Act, the distress itself shall not be deemed unlawful, nor the party or parties making the same be deemed a trespasser or trespassers, on account of any defect or want of form in the notice or information, summons, conviction, warrant, or distress, or other proceeding relating thereto; nor shall the party or parties distraining be deemed a trespasser or trespassers *ab initio*, on account of any irregularity which shall be afterwards done by the party or parties so distraining; but the person or persons aggrieved by such irregularity, may recover full satisfaction for the special damage in an action upon the case.

Provided always, and be it further enacted, That nothing in this Act contained shall extend or be construed to extend to lessen, prejudice, or defeat, or in any wise to interfere with any of the rights, authorities, privileges, and immunities heretofore vested in, and exercised and enjoyed by the Royal College of Physicians, the Royal College of Surgeons, or the said Society of Apothecaries respectively, or of any person or persons practising as an Apothecary previously to the passing of this Act; but the said Royal Colleges, and the said Society, and all such persons or person shall have, use, exercise, and enjoy all such rights, authorities, privileges, and immunities, in as full, ample, and beneficial a manner, to all intents and purposes, as they might have done before the passing of this Act, and in case the same had never been passed.

And be it further enacted, That this Act shall be deemed and taken to be a Public Act, and shall be judicially taken notice of as such, by all Judges, Justices, and others, without being specially pleaded.

We particularly wish to press upon the observation of the Profession, that the foregoing is arranged by the Committee of the Society of Apothecaries; by whom copies have been sent to the College of Physicians, and to the Associated Apothecaries, &c. for their perusal and comments, before it is finally settled and presented to Parliament. It is the more necessary to make this remark; because, when a similarly cautious proceeding was adopted last Spring by the Committee of Associated Apothecaries, the Abstract of an intended *Bill was mistaken for the one that was to be introduced into the House of Commons; by which error much confusion followed; occasioning great trouble to the Medical Public, and to the Committee; as well as a considerable and useless expence.*

EDITORS.

PART II.

FOREIGN MEDICAL SCIENCE AND LITERATURE.

PHYSIOLOGY AND PRACTICE OF MEDICINE.

I.—Dr. Le Gallois, of the Faculty of Medicine of Paris, has lately made some interesting inquiries on the principle of life, and, particularly, on the motion of the heart as connected with it. He was led by an adventitious circumstance to consider how long the young of rabbits can live without respiring, immediately after their separation from the mother, before the natural period of utero-gestation terminates. He found the time to be variable, and greater in proportion to its proximity to the termination of pregnancy. He then attempted to discover, how long these animals can live after decapitation; and found this to be also variable according to the age of the animal: but he likewise observed, that it is always precisely equal to the time during which the animal resists suffocation, or takes in dying by asphyxia. M. Le Gallois thence concluded, that decapitation only destroys animals by suffocating them; that is, by impeding the respiration necessary to their existence.

The analogy being once assumed, required to be proved by direct experiments. There was besides this difference between the effects of simple asphyxia and decapitation; viz. the animal under asphyxia made vain efforts to breathe, whilst in that decapitated all the motions of respiration were destroyed. It became requisite to discover the cause of this difference. To resolve the first question, Dr. Le Gallois endeavoured to supply the material of respiration in the decapitated animal, by inflating the thorax, after having tied the arteries: this experiment succeeded. Sensation and voluntary motion were seen to return with inflation; they were of various duration in different rabbits; but, even in the youngest, continued for several hours.

As it was thus proved, that the destruction of the brain occasioned death by the interruption of respiration, it became necessary to inquire whether the principle of the motion resided in this viscus generally, or was confined to one of its parts? For this purpose, our experimentalist opened the cranium of a

young rabbit, and removed the brain by successive portions, cutting it horizontally, from before, backwards. He found, that all the cerebrum could be thus removed, and the whole of the cerebellum, and even part of the medulla oblongata, without interrupting respiration; but this function suddenly ceased when the origin of the eighth pair of nerves was included in the slice cut from the medulla oblongata. It, therefore, became evident, that the principle of motion in the respiratory organs proceeds from this point; in fact, respiration is no longer performed when these nerves *only* are divided without injury to other parts, and the animal dies from asphyxia, accompanied by some peculiarities which Dr. Le Gallois has noticed.

We are told that the total removal of the medulla oblongata in a rabbit, decapitated and revived, instantly kills it. If the same operation be performed on one which has not been so circumstanced, and in which the brain is perfect, it dies, although not in the same manner; the *trunk of the body* is *instantly* deprived of life; but the head continues to live a short time, and is proved by a gaping (baillemens), indicative of efforts made by the animal to carry on the function of respiration.

If a rabbit be divided transversely into two equal portions, each of these continues to live separately during a certain time, which is shorter or longer according to the age of the animal; and longer the younger it is. Each of these parts feels and acts by itself: and they also die separately, as soon as their respective portions of spinal marrow are destroyed. From this view of the subject, it is evident there are two centres of vitality, or rather two sources of distinct sensations. The life of the whole trunk depends on the spinal marrow, and the life of each portion of the trunk on the portion of spinal marrow, which gives off nerves to it: besides, it so completely and entirely depends on this cause, that after the heart, liver, intestines, and internal organs of the animal have been removed, it continues to survive as long as the portion of spinal marrow, which animates it, is left entire.

Since it is not possible to remove the whole of the head of a warm-blooded animal, and leave the medulla oblongata in continuity with the spinal marrow, without dividing many considerable blood vessels, the loss of blood from which greatly lowers vitality, experiments were made on some cold-blooded animals, such as salamanders. The wound caused by decapitation cicatrised, and they continued to exist until life was exhausted by simple want of nutrition.

These united experiments prove that the maintenance of life in any part of an animal essentially depends on two circumstances; one of which is the integrity of that portion of the

spinal marrow corresponding with the part; the other, the continuance of the circulation of arterial blood in this part, an effect produced by respiration: it follows then, that any portion of an animal can be made to exist *separately* (isolément) so long as both these conditions can be fulfilled.

M. Le Gallois supposes that the brain wills and regulates all the animal motions, but the movements themselves depend on the influence of the spinal marrow. A cold-blooded animal, for example, lives for some days, and moves its limbs after the brain is removed; but its movements are useless, and those of the feet in contrary directions, so that if it takes one step forwards, the next is perhaps made backwards. He imagines that the spinal marrow is acted upon by the brain, in the same manner as the muscles are acted upon by the spinal marrow.

The results of Dr. Le Gallois' physiological labours were submitted, by the National Institute, to Messrs. Humboldt, Hallé, and Percy, by whom a particular examination of the facts was made. The Doctor repeated all the experiments in their presence with complete success; and their report is highly creditable to the talents of the ingenious author. The subject is one of great interest: and we should be glad to see it investigated on this side of the Channel.

II.—*Observation d'une Anasarque guerie principalement par des Frictions faites avec le poudre de Digitale macerée dans de la salive. Par M. F. B. Jas. Ferris, Docteur Médicine, Membre de la Société de Med. de Vaucluse, résidant à Bennieux.* This is the title of the following case which we have extracted from the *Journal Général de Médicine* for July last. We do not hesitate to confess ourselves a little sceptical as to the efficacy of medicinal substances applied in the form here prescribed; but as we deliver this opinion without having had much experience on the subject, we are wiilng to give publicity to the method recommended, that its merits may be fully ascertained.

"The author of this observation was consulted, on the 25th of July, 1809, by M. F. X. Mèry de la Canorgue, aged eighty-four years, of a sanguino-bilious temperament, and teazed by family vexations, on account of a fever which he denominated *gastro-bilious.* The febrile paroxysms recurred every night, and were characterised by the following symptoms: weakness; oppression; a full tense, frequent pulse, intermittent and sometimes irregular; anorexia; a bitter taste, and occasionally a clammy state of the mouth; the tongue covered with a yellowish fur. This complaint was treated by laxatives, purgatives, and a mild vegetable regimen, and yielded on the 12th of August, in the same year.

"M. de la Canorgue, however, who habitually passed urine

in large quantities, and perspired so copiously, that his shirt was every night as if it had been dipped in water, circumstances which excited a dread of his becoming diabetic, had ceased to perspire, and passed very little urine since the commencement of his disease. The ancles, which had begun to swell some months before, now increased every day in size. The left hand was even already slightly tumified.

"The patient was immediately put upon a more nutritious diet, and directed to take the bark, either in decoction or in a mixture made with a spoonful of spirit of aniseed and two spoonfuls of honey.

"August 15th. The fever has returned; the œdema continues to increase.

"17th. A slight degree of fever is constantly present; the legs are swelled as high up as the calves.

"18th. He took a purgative draught. The cinchona produces every day three or four alvine evacuations.

"23d. Has had twenty hot glary stools, small in quantity: let him discontinue the use of the bark.

"24th. The fever has abated; and the patient begins to recover strength.

"26th. Let him begin and continue to take a tisan of dog's grass (chien-dent), and capillaire with nitre and sugar.

"30th. The fever is still apparent; the swelling of the lower extremities extends to the waste, that of the hands to the wrists; and the urine is very scanty.

"31st. No fever. Has had five copious evacuations, of a semifluid consistence, and hot: begins to pass more urine.

"Sept. 1st. Took a purgative draught. The urine is more abundant; and the swelling rather diminished. Let some white wine be added to the nitrated tisan.

"For some days the patient felt himself as well as if in perfect health; but the swelling increased.

"5th. The genitals are affected with the dropsical swelling: but the strength keeps up.

"6th. He was advised to use a suspensary, and to take, night and morning, a large cupful of steel water mixed with white wine.

"12th. Since the 6th, the patient has passed a much larger quantity of urine. To-day, after having had twenty or thirty scanty stools, attended with griping, a strong fever came on, which continued until the 18th inclusive.

"18th. To-day he began to rub upon the inside of the thighs, and on the hams, the powder of foxglove, macerated for twelve hours in the saliva of a young healthy person. The quantity employed was twenty grains of the powder in a coffee spoonful (*une cuillerie à café*) of saliva.

"19th. Attacked with diarrhœa. The mixture for the frictions being too dry, and in too small quantity, three spoonfuls of saliva were used instead of one.

"20th. The swelling diminishes. Let one friction only be employed in the evening, and the nitrated tisan of capillaire taken instead of the steel water.

"22d and 23d. The effect of the frictions is not encreased by employing thirty grains of the powder.

"24th. Immediately after using forty grains, the patient made a very large quantity of urine, and perspired more than usual. The swellings gradually decrease.

"The frictions were continued, once a day, until the 20th of October, with forty grains of the powder and three coffee spoonfuls of saliva. During this period, the patient perspired, and passed urine very copiously: the urine was high coloured. The puffing up of the face, the swelling of the fore arms and of the hands, the left of which was quite round, [the author has not ascertained when these symptoms commenced,] that of the scrotum, the penis, and the thighs and legs gradually fell; and there remained only a slight swelling of the left ancle, which had been weak for several years, owing to its having been sprained at different times. M. de la Canorgue, some time afterwards, bathed the limbs in warm baths containing the marc of grapes*.

"At the present time, 19th December 1809, he enjoys perfect health, with more appetite and strength than before his illness.

"*Reflections.* — This case furnishes a new example of the beneficial effects of foxglove in dropsies. The success is so much the more remarkable, as a great deal could not have been expected from it in this instance. If it is true, there was no reason for supposing the existence of any organic derangement of the viscera; but other circumstances scarcely allowed hopes of a cure to be entertained. The patient was far advanced in years, an old soldier retired from the service on account of his infirmities, worn down with chagrin, and having had swelled ancles for many months; besides, he had just recovered from a long illness, during which he was constantly up at five o'clock in the morning, and went to bed at ten or eleven at night: he had had also the most copious evacuations, both natural, and produced by the bark, and numerous purgatives: and, finally, the anarsarca had already resisted many appropriate remedies. The tisan of nitrated capillaire and the other medicines scarcely

* The cake of husks and stalks, which remains in the wine press, after the juice is expressed.

advanced the cure in any degree; it must, therefore, be attributed chiefly to the foxglove. The saliva with which the powder was mixed, probably added nothing to its efficacy, for we have administered it with equal success in a different form; for example, in the etherial tincture. I am, therefore, of opinion, that these frictions are preferable to the other modes of exhibiting this remedy: but, perhaps, it might be still more beneficial to combine the various preparations and methods, and to employ them, either successively, or at the same time, as the indications may direct."

CHEMISTRY.

III.—In selecting the matter for this part of our Journal, it is our wish to approximate as much as possible to the chief object for which it was established, the improvement of medical science; and occasionally to detail the results of the investigations of foreign chemists relative to the nature and properties of the various articles of the Materia Medica. Of this description are the following results of an Analysis of the Broad-leaved Tobacco, (*Nicotiana Latifolia,*) and of the deadly Night-shade, (*Atropa Belladonna,*) by M. Vauquelin.

He found that the tobacco contains an animal matter of the nature of albumen, malate of lime, with an excess of acid, acetic acid, nitrate and muriate of potass, a red matter of an unknown nature, muriate of ammonia, and, lastly, an acid volatile principle different from every other belonging to the vegetable kingdom. This principle, which gives the tobacco its peculiar characteristic properties, may be separated from the plant by distillation, and employed for the purposes of tobacco, in that state. Prepared tobacco contains more carbonate of ammonia and muriate of lime than the unprepared plant.

As the narcotic properties of the belladonna resemble those of tobacco, Vauquelin supposed it might contain the same acrid principle; but its analysis discovered only an animal matter, some salts with a basis of potass, and a bitter substance on which the narcotic quality of the belladonna depends. In order to ascertain the effects of this substance on the animal œconomy, Vauquelin gave portions of it to various animals, all of which became intoxicated, and delirious, exactly in the same manner as if they had swallowed opium.

IV.—M. Chevreul, having engaged in a course of extensive experiments on vegetable matter, has examined the bitter principle produced by the action of nitric acid upon organized vegetable substances which contain azote; a subject of investigation which had already engaged the attention of Hausmann, Welther, Proust, Fourcroy, and Vauquelin.

M. Chevreul conceives that this bitter is a compound of nitric acid and an oily or resinous vegetable substance; and he attributes the property which it possesses of detonating to the decomposition of the nitric acid, the formation of ammoniacal gas, prussic acid, and an oily hydrogen gas, &c. &c. an opinion which is partly confirmed by the observations of Fourcroy and Vauquelin. But at the same time that the bitter is formed, a resinous substance and a volatile acid are also produced, upon which M. Chevreul has made many experiments; and which he regards as differing from the bitter ingredient only in containing a smaller proportion of nitric acid.

M. Chevreul has also investigated the nature of the substances formed by the action of nitric acid on carboneous or resinous matters, which have the property of precipitating gelatin. The first observations on this subject were made in England by Mr. Hatchett, and the substances obtained were regarded as analogous to tannin. M. Chevreul conceives this opinion to be erroneous, and believes that they differ among themselves not only according to the kind of acid and the substance with which they have been prepared, but also according to the quantity of acid which enters into their composition.

BOTANY.

V.—In the Memoirs of the French Institution, for 1810, some interesting investigations of M. Mirbel on the germination of the Nelumbo, (*Nymphea nelumbo*,) are noticed. Botanists are not agreed as to the class in which this plant ought to be placed; and also differ with regard to the nature of the two fleshy lobes from betwixt which the young plant rises. Some of them having observed no radicles evolved in the germination of this plant, believe that it is altogether devoid of these organs: others regard the lobes which we have noticed as the roots; whilst a third set imagine that they are particular organs analagous to the vitellus. By the assistance of anatomical observations, M. Mirbel has resolved the doubts which have given birth to these opposite opinions. He immediately discovered in the Nelumbo all the characters which distinguish the plants with many cotyledons, from those which have only one cotyledon. He then found in the lobes vessels analagous to those of cotyledons, and observed, at the point where these lobes unite, other vessels which anatomose in the same manner as those which are characteristic of the radicle in the embryons provided with this organ; and thence concluded that the Nelumbo does not essentially differ from polycotyledonous plants.

M. Correa agrees with Mirbel, in regarding the Nelumbo as a dicotyledonous plant, but differs from him as to the nature of the lobes. He believes, with Gærtner, that these organs

have a great analogy to the vitellus, and compares them to the fleshy tubercles of the roots of the orchis. Plants, observes this learned botanist, have double and relative systems of organization, the one connected with the earth in which they are rooted, the other with the air in which their foliage is displayed. The roots are destined for the descending vegetation, and it is at the point of union of these two systems that the cotyledons are generally placed. In the Nelumbo the lobes are at the most inferior part of the plant, and consequently in the system of descending vegetation, or of the root. This manner of examining the Nelumbo, might set aside, indeed, the necessity of acknowledging the existence of cotyledons in it; and the example of many other plants, which have not these organs, shew that they are not altogether essential to vegetation, and that the characters which are deduced from them for dividing the vegetable kingdom into three divisions, are insufficient, and ought to be replaced for those which are taken from the direction of the vessels and the medullary rays.

ZOOLOGY.

VI.—M. Huber, of Geneva, last year presented to the French Institution a paper on the singular industry of a small caterpillar, to which he gives the name of *Chenille a Hamoc*, or the Hammock Caterpillar; in consequence of the manner in which it suspends itself in order to pass its dormant state, or during the period in which it remains as a chrysalis. It belongs to the family of those caterpillars which are denominated *Mineuses;* and it lives in the interior of some fruit trees. In the month of August, it ceases to eat, and then begins to spin its hammock, for the completion of which it occupies only five hours. Two cords, extended between the sides of a leaf turned inwards, so as to give a concavity to the upper part, form its principal supports: it is there suspended by some fastenings of silk; and two other fastenings, which are fixed to the edges of the leaf, hold it steady as if at anchor. The hammock itself is in the shape of a small cylindrical case. M. Huber has not contented himself with simply following with attention, and describing with precision, the successive operations of this little artizan, who constructs this complicated retreat; but has endeavoured to discover how far these operations are subject to changes by the insect, and if varied according to circumstances.

A worm, which is taken away after it has begun the construction of its hammock, will recommence it as long as it retains silky materials sufficient for the work. If it is placed on a construction begun by another, it continues it from the point where the other has left off; but when the one to which it is placed is far advanced, it seems to prefer recommencing the whole *ab*

initio. The fly which issues from the worm seems to be the *Phalæna Clerkella* of *Linnæus*, and one of its enemies is the *Ichneumon ramicornis.*

VII.—M. DE LA BELLARDIERE has noticed a remarkable fact relative to the instinct of Drones, or great velvet bees that form their nests under the turf or among stones. He found in a nest of the species *Apis Sylvarum* of Kirby, about the end of Autumn, an old female and a female-working bee, whose wings seemed smeared with a brown compact cement, so as to prevent them from flying; and it seems as if this was a precaution taken by the other bees to compel these two individuals to remain in the nest, and to attend there as nurses to the larva, which were destined, the succeeding year, to renew the population of the colony.

VIII.—SOME important observations were also laid before the Institution relative to the anatomy of Insects, particularly respecting the use of the great vessel which almost all the class bear along the back, and which is subject to motions of dilatation and contraction similar to those of the heart and the arteries. Malphigi and Swammerdam have given it the name of heart: but it is evident, from the observations of Lyonnet and many others, that no branches issue from it; and Cuvier seems to have proved, by many experiments, that insects have no sort of circulation. M. Marcel de Serres has examined this subject anew, and satisfied himself, by innumerable experiments made on the largest insects of the South of France, and aided by the most delicate anatomical instruments, that the dorsal vessel has no ramification whatever; that there is not in the body any other contractile vessel, nor in general any system of blood vessels.

If the dorsal vessel be taken away from the insects which possess it, they will still live many hours; while the scorpion and the spider, who have really a heart, perish immediately when that is destroyed. The contractions of the dorsal vessel are principally owing to the muscles of the back, which are placed along its sides: but the trachea and the nerves have a sensible effect upon it. The fluid which it contains appeared generally to be of a colour analogous to that greasy matter with which some other parts of the bodies of insects are always filled; and possesses little liquidity, particularly among the voracious larva. The diameter of the vessel has been found nearly cylindrical in those larva where the greasy matter has been most equally distributed; and the inequalities of its different parts were proportioned to those of the corresponding parts of the grease of the body. The nerves and the trachea abound more in the dorsal vessels of the larvæ than in those of

perfect insects; and contractions in the former are stronger but less frequent. From these and some other facts, the author considers himself justified in concluding, that the function of the dorsal vessel is to produce the greasy matter; and, in order to perform this function, it absorbs a part of the nutritive liquor, which is diffused in the cavity of the body through the partitions of the intestine; and which causes it afterwards to transude through the meshes of the cellular tissue, where the grease receives its definitive elaboration.

X.—M. Montigre has made some curious observations on the habits and the anatomy of the *Lumbricus*, or earthworm. These animals are hermaphrodites, and all productive: and according to the observation of M. Montigre, they produce their young alive. They nevertheless require a copulation, which seems to be performed without the least intromission of parts, so that one might be led to suppose that it had no other object than to excite in them some orgasm necessary for the production of fecundity. This copulation generally takes place in the months of June and July, and is performed by means of an inflation, which is observable in the anterior part of the body of the worm; and these parts of different worms are, as it were, glued together; the anterior part of one worm to that of the worm opposed to it. The young ones are at first perceived in the white organs which are placed forward on both sides of the stomach, and then glide between the intestines and the exterior muscles, until they reach a reservoir situated in the thick part of the tail, where they are easily seen full of animation. M. Montigre has likewise ascertained, that earthworms do not live altogether on earth, as he has found in their intestines the remains both of animals and of plants.

X.—The Society of Pharmacy, at Paris, have lately proposed the following Prize-Questions on the nature of those Preparations termed Pharmaceutic-Extracts; and, particularly, of the immediate principle in Plants, known by the name of *Extractive-matter*—a principle, the existence of which is as yet only considered as problematical: viz.

1. Does there exist in Plants a substance, *sui generis*, different from the immediate principles already known, and which may be termed *extractive?*

2. If this extractive matter does exist, what means have we to isolate it, and what are its characteristic properties?

3. To what substances is it most frequently united in the Pharmaceutic-Extracts? In case the principle termed *extractive* should not exist in plants, it is also desirable that the substances should be stated, the amalgamation of which constitutes the principal extracts.

4. If the extractive matter does exist, what are its relations and differences with respect to the principles forming the colouring matter?

5. What are its operations in chemistry, both with respect to the œconomical and chemical arts in which plants are used?

The answers, signed with a motto only, are directed to be sent, post paid, before the 15th January, 1815, to the General Secretary of the Society, with a sealed note containing the author's real name and address, and marked with the same motto as the answers to the questions; which note will not be opened unless the answer is found to be entitled to a premium, for which a bequest of 600 francs has been left by the late M. Parmentier, Member of the French Institute.

XI.—The Medico-Chirurgical Society of Gand propose, for the subject of a Prize, consisting of a gold medal of the value of 300 francs, to be conferred at its public sitting in the present year, the following question:—"What are the diseases, both internal and external, which, in their aspects, in the symptoms which attend them, and the situations they occupy, may be confounded with venereal diseases?—The authors are required to point out the phenomena, and the means by which they may be distinguished with certainty from these latter affections."—The dissertations must be transmitted, free of expence, before the first of June 1814, to M. Kluyskens, perpetual Secretary of the Society.

PART III.

ANALYTICAL REVIEW.

I.

An Account of a successful Method of treating Diseases of the Spine; with Observations, and Cases in Illustration. By Thomas Baynton, of Bristol, Author of a Treatise on Ulcers. 8vo. pp. 128. Longman and Co. London. 1813.

The "Treatise on Ulcers" placed the reputation of Mr. Baynton among the first of those who have improved Practical Surgery. The ready application, and the specific efficacy of the method employed, with the frequency of the disease to

which it was so judiciously appropriated, constituted a body of evidence most honourable to his ingenuity, talent, and practical skill. The annals of Surgery present but few instances of a discovery so fortunate. Simple, effectual, within reach of, and submitting to the dexterity of every practitioner, it received the universal approbation of the Profession. On this foundation was fixed the character of Mr. Baynton, when this "Account of a successful Method of treating Diseases of the Spine," came before the Public. Whether it has conduced to elevate still higher the well-earned fame of its author, we will not presume to determine. Of the Treatise itself we will give a fair analysis, and leave the decision to a Court which is never wrong in its judgments.

That few diseases occasion greater individual distress than that which is here treated of, will be readily admitted. The confinement, the pain, the hazard to life, combine to form an aggregate of evil, seldom exceeded in the long catalogue of maladies to which the human frame is liable.

The cause of that disease of the spine, manifesting itself by a peculiar morbid alteration in the bodies of the vertebræ, has been referred to a specific state of the system, under the somewhat vague appellation—Scrophula. Upon the cause of diseased spine, as referable to a strumous diathesis, Mr. Baynton enters on a discussion, which, if not decisive of the fact, has considerable interest.

"Diseases of the vertebræ, which, in consequence of the softness of their bodies occasion a protrusion of their spinal processes, and a compression of the medulla, must be generally allowed to be connected with the disease that is denominated scrophula. But as the term scrophula conveys no precise meaning respecting the nature of that disease, and has only a remote allusion to one of its symptoms, it may not be improper in this place to observe, that the theory which teaches that a debilitated and torpid state of the arteries, veins, absorbent glands, and lymphatic vessels, are the causes of scrophula, will prove more satisfactory, and afford a better explanation of the occasion of many of its symptoms, than most of the opinions which have been entertained. It will also, it is believed, conduct the practitioner to a more rational, and successful mode of treating it.

"It has been observed by Mr. Cruikshank, in his valuable history of the absorbents, 'that in scrophulous inflammation of the lymphatic glands, under the skin, not only the integuments, but the glands themselves, have frequently a blue or purple colour; this is owing to the slow motion of the blood both in the arteries and veins, or perhaps even to its stagnation in those parts; peculiar to this kind of inflammation.' Dr. Darwin has also said in the Zoonomia, 'that when the glandular part of a lymphatic vessel becomes torpid, the fluid absorbed by its mouth stagnates, and

forms a tumour in the gland, and that this disease is called the scrophula.'

"The mesenteric glands are generally found in a diseased state in persons who have laboured under the symptoms of scrophula, and it is known that children whose mesenteric glands have been so diseased as to prevent the natural supply of chyle from entering the thoracic duct, have been peculiarly liable to diseases of the spine, and to that flattening of the ribs at their sides which occasions them to lose their arched form, to project anteriorly, and to induce a deformity of the chest that has been, not unaptly, compared to a chicken's breast.

"These effects may be occasioned either by a deficient deposition of ossific matter, from the secreting extremities of languid arteries; or by a deficient absorption of the softer constituents of bones, by diseased absorbent vessels; or by the combined effects of each of those, and perhaps of other causes.

"When the connexions, actions, and dependencies of the arterial, venous, and absorbent systems upon each other, are duly considered, it will be difficult to imagine that any material imperfection can exist in the general condition of either of those systems, without the production of an effect more or less detrimental to the functions and structure of each of the other of those systems.

"Now if a debilitated and torpid state of the circulating and absorbent systems, be the cause of that morbid softness of the bones which so often occurs in young persons, and occasions curvatures of the spine, and many of those other diseases of the joints and bones, which happen so frequently in such conditions of those systems; the means of cure here recommended will, it is expected, appear to be as probable, as their effects have been found satisfactory.

"'The formation of bone is a process of a truly animal nature, it is not the inorganic concrete which it was once supposed; but it is a regularly organized part, whose form subsists from the first; and which is perfected by its secreting arteries; and balanced as in every secretion by the absorbents of the part. It lives, grows, and feels, it is liable to accidents, and is subject to diseases. It is a process which at first appears so rapid that we should expect it to be soon complete; but in the end it becomes a low and difficult process; it is not completed in the human body till after the twentieth year. It is forwarded by health and strength, it is retarded by weakness and disease.'

"These circumstances sufficiently indicate the reason why curvatures of the spine generally occur before the process of ossification is completed; and why such diseases generally affect persons whose circulating and absorbent systems are in a weakened state. They also shew why those who have had the misfortune to fall into such diseased states, cannot be expected to recover, while the disadvantages that occasioned, and preceded the appearance of the curvatures, continue to influence the circulating and absorbent systems.

"Previously to the appearance of spinal curvatures, the arteries have failed to secrete a sufficient supply of ossific matter to afford healthy consistency to the bones, and at the same time it is rendered probable by the symptoms that the absorbents have failed to absorb the due proportion of soft materials. These failures in the circle of the actions of nutrition, at length induce a morbid softness in the bony, and intervertebral substances of the spinal column, which renders it unable to bear the weight it has to sustain, and endangers the safety of the sensible nervous parts which it incloses.

"The softened bodies of the vertebræ yield to the pressure of the parts above; inflammation, and ulceration, occur as a consequence of compression; and the nerves of the parts below, suffer so much from the same cause, compression, as to occasion in those parts, namely the intestines, bladder, and limbs, a loss of sensibility, and of the power of action."—p. 17—25.

On this view of the cause of diseased spine, is founded the method of cure described in this pamphlet.

Mr. Pott, and Sir James Earl, have both, according to Mr. Baynton, erred in the principle of their practice. Mr. Pott depended on a drain by issues, applied on each side of the projecting spinal process. Sir James Earl looked to a form of machinery, which should take off the incumbent weight from the diseased vertebræ, and transfer it to the pelvis. In many of the cases successfully treated by Mr. Pott with issues, confinement to a horizontal position was unavoidable: but in these cases, the effect of that position was overlooked, and the cure attributed to the issues alone. Sir James Earl, knowing that issues were ineffectual unless the superincumbent weight was removed from the morbid part, and objecting to the horizontal position, from its being irksome to the patient, "weakening and relaxing," and consequently retarding the cure, as he expresses it; endeavoured to substitute a mean betwixt the confinement to bed, and the pressure arising from the erect posture. The result of this was, the invention or substitution of the machinery before mentioned.

It is assumed by Mr. Baynton, that the practice for diseased spine was in this state, when he took up the subject; vacillating between the issues of Mr. Pott, and the machinery of Sir James Earl. As the principle of these methods was, more or less, erroneous, the practice was inefficient or dangerous, except when the circumstances of the case led to confinement in the horizontal position.

"Could it have been expected that any persons, whose circulating and absorbent systems were not sufficiently healthy to preserve a proper consistency in the bony parts of the system, when general circumstances were favourable, would recover by the mere

assistance of caustic issues, or by the mere removal of pressure, or even by the combined effects of each of those means, when the bones were in a state of ulceration, and the general health destroyed? surely it could not; as the effects of drains have no known tendency to improve the health of the vascular systems; or the removal of pressure, to obviate any of the *causes* of this disease.

"It could not be expected that the deposition of osseous matters, and their consolidation, the most important processes in the restoration of bone, should be properly performed while the body was erect, and in action; it would not happen in a simple fracture of the bones of the leg, in the most healthy person.

"What then would reason appear to suggest? would it not instruct us to afford to a bone that had sustained a greater injury, and that was connected with impaired vessels, equal advantages to those required for the reparation of a healthy bone, that had been broken by an accident? it certainly would; and would shew, that those advantages should, if possible, be so extended as to reach the difficulties of such unfavourable cases. It would also shew that the means of restoration ought not to be interrupted till the cures of such cases were perfectly accomplished; lest the destruction of the newly formed parts should be occasioned by actions that were disproportioned to their vitality.

"Resting, in the horizontal position, is as effectual in *improving circulation*, *favouring the deposition of bone*, and *promoting absorption*, as it is in preventing pressure, and allaying pain.

"When a healthy bone is broken, it cannot be repaired without absolute rest; and when a deposition of lymph occasions the swelling of a limb, its absorption is promoted, and the swelling removed, by a horizontal position; on the contrary, the fractured bone remains disunited, if it be kept in a state of action; and the limb continues swollen, when the advantages of recumbency, or other means, (inapplicable in diseases of the spine,) are not had recourse to.

"The analogy between diseases of the bones, that occur as a consequence of a diseased state of the vascular systems, as spinal affections; and those diseases which are the consequence of injuries, as fractures, is too clear to escape observation; and the means of restoration are precisely the same in each case."—p. 26—31.

From the analogy between diseases of the bones that arise from a morbid state of the vascular system, and those which are the consequence of injuries, ab extra; from a comparison of the opinions and practice of Mr. Pott, and Sir James Earl; from facts, collected from the writings of other surgeons of eminence, as Mr. Ford and Mr. Abernethy, Mr. Baynton comes to the conclusion, *That undeviating, absolute rest, continued without interruption, till the cures are completed, is indispensibly necessary, in that disease of the spine, in which Mr. Pott employed issues, and Sir James Earl, machinery: and that by uninterrupted rest* ALONE, *the most hopeless cases have been cured.*

As this disease has been suggested, however, to have its origin in a strumous diathesis, the employment of medicine (notwithstanding many of Mr. Baynton's cases were cured without the use of any internal or external remedy) has not been quite overlooked; and the efficacy, or modus operandi, of cinchona, muriate of lime, and topical blood-letting, are examined. What is said of muriate of lime, we shall present to our readers.

"The muriate of lime has been highly commended by many practitioners. It was first recommended, I believe, by Mons: Fourcroy, about eighteen or twenty years since; probably from theoretical views, as it contains the solid constituent of bone in loose combination with the muriatic acid. It was afterwards as strongly recommended to the attention of German practitioners by the learned Professor Hufeland, of Jena; and it was more particularly introduced to the notice of English practitioners by the late very ingenious Dr. Beddoes, in his treatise on the management of the Consumptive.

"A considerable difference of opinion is however still entertained respecting its properties as a medicine; by many it is considered as almost specifical in the curing of scrophulous diseases; whilst by others, among whom are Professors Russell, and Thompson, it is held in very slight estimation.

"These differences of opinion must continue to appear irreconcileable, under the too general view of its possessing either a *specifical*, or an *inert* character, *in every stage* of that disease. But, if only the same degree of latitude, and of limitation, be allowed to its effects, that are granted to the effects of almost all other medicines, I am inclined to believe that it will be found very useful in some of the stages of scrophula.

"A gentleman who had tried it fully and fairly in the earlier stages of his disease, during a period of comparative health, and strength, without advantage, was preserved by its use in the last stage, under the most hopeless circumstances, after the failure of every other known remedy. The event of that case, as well as of many others, in the same stages of that disease, which could be improved at will by the use of the medicine, and that failed to improve if it were omitted, leaves no doubt in my mind, that generally in the latter stages, and in the more chronic forms of that disease, it will prove eminently beneficial.

"In the cases of the sickly poor, whose countenances denote to every spectator, by the signs already mentioned, the state of debility to which they are reduced, it will not often disappoint the hope of the practitioner.

"This medicine will be occasionally met with of different degrees of strength, in consequence of being prepared from formulæ that differ. Those who would give it a fair trial should prepare it themselves, by saturating the undiluted muriatic acid with prepared chalk; which can be performed in a common bason, as easily as

the saturation of lemon juice with an alkali. One drachm of the clear liquid may be taken three times a day in a draught of water, or new milk, by an adult: and gradually increased to three or four drachms with the most perfect safety, if the obstinacy of the disease should render it necessary."—p. 46—50.

In the detail of his practice, Mr. Baynton gives minute directions respecting diet; describes the form and construction of a bed, affording peculiar convenience to the patient; and the evidence of cases, for which we must refer our readers to the pamphlet itself.

To the principle on which the practice here described is founded, few objections we apprehend can be raised; to its details, in the hands of the writer of the treatise on "Ulcers of the Legs," every thing will be conceded: and if to the title of a discoverer, in this instance, the author has but little claim, he will have the full credit of first bringing the practice of *entire rest* in diseases of the Spine, fully and fairly before the Profession.

II.

An Essay on the Utility of Blood-letting in Fever, Illustrated by numerous Cases; with some Inquiry into the Seat and Nature of this Disorder, by Thomas Mills, M. D. *Licentiate of the King and Queen's College of Physicians, and one of the Physicians of St. George's Fever Hospital and Dispensary, &c.* 8vo. pp. 222. Gilbert and Hodges, Dublin. Longman and Co. London, 1813.

One of the greatest obstacles hitherto opposed to the progress of Medical Science, has been the powerful effects which ingenious hypotheses reared by celebrated men have had in regulating practice. The promulgators of these speculations have generally been public teachers; and their opinions, spread abroad by their pupils, have obtained a more than local currency, until put down by new hypotheses, which time has proved to be equally untenable; and which have, therefore, in their turn, also, been obliged to yield to other innovators. In support of our opinion, we need only enumerate the principal systems which have swayed the opinions and practice of the Profession since the middle of the seventeenth century.

About this period the mathematical celebrity of Galileo gave a bias to the reasonings of medical philosophers; while the method of induction proposed by Bacon, led to the observation of facts; and the discovery of Harvey, to a more decided knowledge of the organic system of the human body, than was

possessed by the humoral physicians. Towards the conclusion of the century, the writings of Stahl struck the death blow of the humoral pathology, which till this time had universally prevailed: but the reliance of Physicians on the *vis medicatrix Naturæ*, which it occasioned, now introduced a degree of inertness and inefficiency of practice dangerous in itself, and very injurious to the improvement of medicine.

Contemporary with Stahl, Hoffman and Boerhaave both proposed different systems, each of which had their followers: and that of the latter in particular, probably owing as much to the celebrated Commentary of Van Swieten, as to its own intrinsic value, was universally adopted; until Cullen pointed out its imperfections, and presented his own system to the Medical World. Since this period, the dangerous dogmas of Brown; the ingenious but fanciful speculations of Darwin, and the more crude suggestions of some others, have, severally, although not in an equal degree, regulated the curative art; and practitioners are scarcely yet able to shake off the trammels of the system in which they were tutored, and boldly to think for themselves. Every work, the scope of which is to aid this desirable event, is of the utmost importance; and, it is only from a conviction that the volume under consideration is of this character, that we now bring it before our readers; as the date of its publication would, otherwise, have excused us for passing it unnoticed.

Doctor Mills is one of the medical officers of a public institution, the object of the establishment of which is the treatment of the class of diseases, which forms the subject of his volume; and for the observation of causes and phenomena of which he has had ample opportunity. We do not hesitate to say, that either the large mass of evidence which he has brought together must be altogether discredited, or the propriety of his practice admitted: but, at the same time, we think he has extended his principle of treatment of Fever by blood-letting perhaps beyond the limit to which it ought to be confined. Our analysis of the volume will, we trust, shew both the value of the practice proposed, and the errors to which it may lead; and, therefore, without farther preface, we hasten to the performance of this part of our duty.

Our author dedicates his labours to Doctor Clutterbuck; the perusal of the work of that respectable physician having first led him "to make trial of blood-letting in fever." In the preface, we are informed that "within the last thirteen years," Doctor Mills had "severally made trial of opium, bark, mercury, wine, cathartics, and the cold and warm effusion for the cure of fever;" and found, "that whatever opened the bowels and increased vascular action afforded most relief." He had,

consequently, "adopted the purgative and sedative as the most beneficial plan," when the reasoning of Doctor Clutterbuck induced him to try the effects of abstracting blood by the lancet. His experiments were begun "in the House of Recovery, and Fever Hospital, Cork-street, during the prevalence of an epidemic in the summer of 1810;" and from the success of the trials, the practice was extended to the large establishment of which he is now one of the physicians. Blood-letting in fever is admitted, by Doctor Mills, to have been long successfully employed by the ancients; although generally disused by the moderns, except in a few instances, in the British army; the results of which were communicated to the public through the medium of a contemporary Journal*.

The opinions of our author on the nature of fever, are stated in the following inferences, drawn from the facts detailed in his work.

"1st, Fever is an inflammatory affection.

"2d, Fever is of one kind, of which there are many varieties.

"3d, The varieties depend on the organ or part particularly affected. (p. 222.)

On these varieties he has bestowed the epithets, Cephalic or Brain Fever;—Pulmonic Fever;—Hepatic Fever;—Gastric Fever;—Enteritic Fever;—Cardiac Fever; each of which we shall notice in the different sections, according to the arrangement which he has adopted. We think it proper, however, previously to state his objections to the usual appellations of fever found in the writings of medical authors.

"To the epithets employed," says Dr. Mills, "to distinguish different fevers some objections arise which seem deserving of notice.

"The fever styled Nervous, for example, is that in which the head and nerves are supposed to be chiefly engaged, but the nature of the affection is left unexplained; the only idea annexed to it seems to be that of debility, an idea productive of error, inasmuch as it leads to the use of wine, bark, cordials and aromatics, which, according to the principles here laid down, must often prove fatal.

"Fever is denominated rheumatic when the joints are swelled, red and painful, when the pulse is hard and frequent, the skin hot and dry, &c.—here the title is calculated to mislead, as it is founded on a fanciful theory respecting the nature of the disease; and hence the reason why a practice diametrically opposite is pursued by different practitioners.

"The Bilious and yellow fevers are so called, because the skin and tunica conjunctiva of the eye are of a yellowish or deep yellow

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* *The Edinburgh Medical and Surgical Journal.*

hue—the terms are ambiguous—grounded on a solitary secondary symptom, it gives no idea of the seat or nature of the disorder, or of the treatment to be adopted.

"The Putrid has its name from the petechiæ, or the dark-coloured blotches or patches which sometimes appear upon the surface of the body.—They are merely accidental or secondary appearances, the consequence of vascular excitement; the title putrid, therefore, is ill-founded, and, as it points to a wrong mode of practice, has the effect of misleading the practitioner.

"The Miliary is so called from an eruption on the skin which resembles the millet seed. This eruption is a mere fortuitous circumstance, not indicative of a fever of a peculiar kind—it appears equally in the fevers called nervous, bilious, rheumatic, putrid and puerperal, especially when treated by a heating regimen; it is sometimes accompanied by transient pains of the joints of the lower extremities. Something very mysterious and alarming is supposed to be connected with its appearance, yet as a symptom taken singly it will be found, perhaps, to be indicative of neither safety nor danger; for it is observed in the fevers just mentioned, when no fatal sign is present, and when death is fast approaching; the danger, therefore, is not to be estimated from its presence or absence, but from the symptoms which attend it, delirium, stupor, pain, laborious respiration, prostration of strength, difficult deglutition; symptoms which commonly prognosticate an unfavourable termination.

"Jail, Camp, and Hospital fevers have their names from the accidental circumstances of having been observed in persons collected together in Hospitals, Tents, or Prisons—terms without a signification as applied to disease.

"The Puerperal fever is so styled because it attacks lying-in women—no information can be thence obtained of the character or tendency of the disorder, or of the plan of treatment to be adopted. To this variety of fever the term peritonæal may properly be applied, because it is seated in the peritonæum: like every other it is inflammatory, and from the usual violence of its symptoms and rapidity of its course, demands early and copious evacuations."—p. 216—218.

Before entering upon the consideration of the first of his varieties of fever, *cephalic* or *brain fever*, our author endeavours to combat the opinion that the debility which appears to characterise every fever is real; and regards it merely as a temporary suspension of the power of life, the consequence of the system being oppressed; but "remove the oppressing power, and the strength is recovered." Hence emetics, cathartics, blood-letting, and sedatives, debilitating powers, when applied to a healthy body, are the remedies which cure fever. It is not our intention to examine very narrowly the theoretical opinions of Doctor Mills; but we cannot avoid remarking that from the manner he uses the term oppression of the system, we are led to suspect that he conceives plethora must necessarily

precede the attack of every fever; or that he imagines plethora and excitement are one and the same state of the habit. Now we are willing to admit that the debility in the commencement of fever is more apparent than real, and proceeds from over excitement; but it is excitement arising from an irritating cause of a peculiar nature, and from too great a quantity of the circulating fluids. The sudden abstraction of a portion of these fluids, whether by the lancet, or by emptying the stomach and bowels, or by profuse perspiration, allows the irritable fibres, whether nervous or muscular, as they have not yet taken on a permanently morbid action, to recover themselves; and, by breaking the diseased catenation of actions, that action natural to the healthy state of the body returns; and increasing the tone of the coats of the blood-vessels, and the nervous system, both are rendered capable of resisting the further impressions of the morbid cause. These remedies, therefore, are most efficacious when applied at the onset of the disease; and become less so, in a direct ratio, according to the time which the morbid action has had to confirm itself into a habit. The difference of opinion, however, between us and Doctor Mills is perhaps merely in the mode of employing certain expressions; and we are willing to admit, what we conceive to be his meaning, that fever is a state of oppression from some morbid excitement.

Our author treats first of *cephalic* or *brain fever;* by which is meant the typhus or nervous fever of other writers. Twenty cases of it are detailed, of which sixteen terminated in recovery, and four proved fatal. In nine of the fortunate cases the lancet was had recourse to once only in each case; in three the patients were twice bled; in two others three bleedings were necessary; in another, four; and in one, even five were required. In one of the fatal cases the patient was bled; but the three others were managed according to the usual method.

The most remarkable circumstance connected with these cases is the small quantity of blood which was taken; and we are inclined to ascribe much of the benefit which resulted, to the immediate and repeated exhibition of brisk cathartics after the bleedings. We are not prepared to assert that the cathartics alone would have proved so beneficial; although we have no hesitation in saying that we believe the abstraction of such small quantities of blood as six ounces, would have been of little avail without the aid of the purgatives. The effects of this powerful class of remedies in the commencement of fever is now well known to the Profession*; and to the introduction of the use of them in typhus, much of the improved treatment, and

* See *Hamilton on the Utility of Purgative Medicines.*

consequent diminished fatality of that disease is perhaps to be attributed.

Doctor Mills is of opinion that the brain was the seat of disease in all the cases to which we have referred. That it was powerfully excited, was evident from the symptoms, which in this particular were nearly the same in all; although, in other respects, "no two patients were affected exactly alike."

"Giddiness, or pain, or weight, or fulness of the head, was universally complained of; the external senses were vitiated; in some, the sense of hearing was blunted; in others, rendered acute; again, the optic nerve became so irritable, that light, in any degree, caused excessive pain in the eye-balls; the remaining senses of touch, taste, and smell were likewise affected—the obscurity or perversion of the intellectual powers appeared in every instance; one was marked by stupor, another by low or high delirium; in this patient, fancy moved unrestrained by judgment; in the next, memory called to view transactions long forgotten, whilst latter ideas were buried in oblivion—such was the disordered condition of the intellectual powers, the due exercise of which depends on the healthful actions of the vessels of the brain."—p. 51.

Our author endeavours to trace the analogy between cephalic fever and phrenitis, both as to the predisposing causes, the symptoms, and general progress of the disease, and the appearances on dissection; and concludes that they are the same in kind, and differ only in degree. The dissections of the fatal cases displayed certainly marks of previous inflammatory action of the brain; and water, the consequence of this, was found in the ventricles; but the abdominal viscera were also much diseased, particularly the liver and spleen; and hence it is difficult to determine which organs were primarily affected. This, however, is of little importance; for if the diseased action which excites fever be inflammatory, the same antiphlogistic measures are required, whether the head or the abdominal viscera be affected.

Doctor Mills combats with considerable ingenuity the various objections which he conceives may be urged against his hypotheses; and, in support of his practice, brings forward the authorities of Sydenham, Pringle, Huxham, Doctor Jackson, Rush, and others who have employed the lancet freely in the treatment of fever. We were particularly pleased with the following remarks on the use of wine; although the principle of prohibition is, perhaps, carried a little too far; or at least we are not able to throw off so completely the tramels of early education as to subscribe, without much reservation, to the Doctor's opinions.

"The doctrine that fever consists essentially in debility and in a putrescency of the fluids, has led among other remedies, to the use of wine, which has been and still is administered in large or in small

quantity, according to the features of the disease, or the opinion of the practitioner; and so much are the public and the faculty prepossessed in its favour, that some time must elapse before its properties be duly appreciated or a check be given to its administration; yet, if we could but dispassionately reflect on the inflammatory nature of fever, and on the stimulating properties of wine, we would conclude that it is detrimental. It must be acknowledged, indeed, that the symptoms are often deceitful, such are, the prostration of strength, the loss of appetite and the feebleness of the pulse; but these symptoms are not the consequence of debility, but of over-excitement; evacuants, therefore, and not stimulants are indicated.—Wine stimulates the nerves and fibres of the palate, fauces, æsophagus and stomach; the vascular system is excited, the pulse is quickened, the face is flushed and the spirits are exhilarated; the skin becomes hot, the tongue parched, the thirst urgent; such is the effect of a certain quantity of wine; increase this quantity and the temples throb, the head aches, and the eyes become suffused; next, succeed stupor, vertigo, prostration of strength, and sometimes, apoplexy, mania, epilepsy, fever or inflammation of one or more of the viscera; such are the stimulating effects of wine, which, in the first instance, gives a temporary degree of strength, in the second, produces debility and the diseases of over-excitement.—Can such a remedy be administered with safety in such a disease as fever?—that some recover who have taken largely of wine, no one will question; the recovery, however, cannot justly be ascribed to the wine, but to the mildness of the attack, the strength of the constitution, or the counter-operation of the medicines usually exhibited; we may also remark, that treat our patients as we will and they frequently recover; and the question is not always, what medicine was most useful, but what was least pernicious—that wine, however, is inadmissible in fever, more especially at the commencement, may be inferred, not only from the inflammatory tendency of the remedy, but from the superior success which attends the use of evacuants and sedatives.—p. 67—68.

With regard to petechiæ, which have generally been considered as denoting a putrescency of the fluids, Dr. Mills conceives that they proceed entirely from vascular excitement, which exists in a higher degree at the commencement of the disease; and hence they "often appear on the second, third, or fifth days of fever, and decline on the tenth, eleventh, and twelfth." In several of the cases detailed by him, in which recovery followed the use of the lancet, the body was "covered with petechiæ and vibices." In support, also, of his opinion, a quotation is given from Thomas Bartholine's account of a malignant fever that raged at Copenhagen in the year 1652, "and was accompanied with quotidian or tertian paroxysms," in which "petechial spots came out in the fits, and disappeared in the remissions."

The next division of the volume treats of what Dr. Mills

denominates *Pulmonic Fever;* Peripneumonia Typhodes of Sauvage. Thirteen cases of it are detailed, of which ten recovered, and three proved fatal; but two of these were managed after the common method. One case required a single bleeding only, two bleedings were neçessary in each of five cases, three and four in two others, while one could not be subdued without seven, and another even required nine bleedings.

Besides being attended by the ordinary symptoms of fevers of a typhoid type, the most characteristic feature of this variety is a troublesome cough unattended by expectoration, dyspnœa, and great oppression in the chest. The blood drawn usually displays the buffy coat; and, on dissection after death, appearances of strong inflammatory action having existed in the lungs are perceptible; adhesions between the pleura costalis and pulmonalis on each side are not uncommon; the lungs are often gorged with blood; and black gangrenous spots appear on the surface of the lōbes. From the degree of headach and delirium, which generally accompanies this variety of low fever, it might a priori be imagined that the brain is as much excited as in the former variety; but examination after death proves that this opinion is ill-founded.

"As there was no effusion in the ventricles," says the Doctor in describing the appearance of the brain in one of the fatal cases, "nor marks of inflammatory action in the brain, we must ascribe the head-ach, the delirium, and the other painful sensations in this organ, to the turgescence of its veins, and to the marks of increased vascular excitement observed on dissection."—p. 122.

Hepatic Fever, the name given by our author to typhus icterodes, forms the subject of the third division. The characteristic features of this variety are—

"Loss of appetite, and a sense of fulness, weight, or distress in both hypochondres, sometimes accompanied by fugitive pains—the taste is vitiated, bitterish, nauseous, or sourish, and often compared to that of vinegar in a state of putrefaction, or of rotten fish or eggs; and is frequently said to proceed from the stomach; the tongue is foul, almost ever in the centre of a yellow or saffron colour; the bowels are usually constipated; sometimes they are affected with tormina and tenesmus, accompanied by fœtid discharges of a dark, yellowish, or greenish appearance."—p. 126.

The affection of the liver is not always evident in the commencement of the attack; and it is only by the pain felt when the hypocondria are pressed, that the existence of it is ascertained. Sometimes, even when "no uneasy sensation whatever is complained of, by the quick application of the hand upon these parts, the patient is roused, as it were from a lethargy, and shrieks with pain."—p. 127.

The necessity of repeated bleedings in Hepatic Fever ap-

pear to be greater than in the former varieties; for of eight cases, which are detailed, six were bled three times, and two four times. Two of the cases proved fatal; and dissection discovered in the brain and on the stomach, as well as in the liver, evident marks of inflammation: but, our author is of opinion, that the liver was the organ primarily diseased. "The affection of the head and spleen was the consequence of con gestion, and of determination of blood to these organs; even the inflammation of the stomach was but secondary; although the gangrene that supervened might have hastened the death of the patient."—p. 161.

The same remedies are employed by Doctor Mills in the Pulmonic and Hepatic as in the Cephalic fever, except that, in the Hepatic, he occasionally orders fomentations, local bleeding, and blisters. He relies principally on the general bleedings; but, as we before stated, we are inclined to ascribe much of the benefit to the action of purgatives employed immediately after the use of the lancet. The success of his practice in these varieties of fever we can readily believe; and, when the symptoms are well marked, we are decidedly of opinion that, if they can be subdued by art, bleeding and purgatives are the only remedies required: but we confess that we are rather sceptical as to the propriety of employing exactly the same curative measures, particularly active cathartics, in the varieties which he has named *Gastric* and *Entoritic*.

Gastric Fever is so denominated by Dr. Mills, because the stomach in this variety of fever is supposed by him to be the seat of the disease. The more characteristic symptoms are, "almost constant nausea, frequent retching and vomiting, a sense of soreness, weight, uneasiness, or pain in the epigastric region (symptoms which are increased, and sometimes excited, by pressure), a feeling of internal heat and burning, a desire for cold acidulated drinks, a distaste for every kind of food, especially animal; præcordial anxiety, restlessness, watchfulness, and despondency." The head is also affected, but in a much smaller degree than in Cephalic fever. "The tongue is cream coloured and moist, sometimes tinged with yellow in the centre; in some cases the fauces, tongue, and gums, are slightly inflamed; in others, they are covered with aphthous sores." Six cases of gastric fever are detailed, three of which proved fatal; but in one of these the lancet was not employed. In five of these cases blood was freely abstracted both from the arm, and from the region of the stomach, by cupping; and fomentations were judiciously employed: but, it appears almost incredible to us, that the stomach labouring under inflammation, whether phlegmonic or erythematic, should have been able to bear the repeated exhibition of active cathartics; which

were daily prescribed. We are nevertheless informed, and must give our credence to the account, or disbelieve the whole volume, that the purgatives were not only retained on the stomach, but under their use the retchings, vomiting, and irritability of that organ subsided. In one of the cases, in which it was necessary to have recourse to blood-letting five times, the blood last drawn was the most highly buffed; a circumstance similar to what was observed by Dr. Watt to take place in the treatment by blood-letting of another disease of great apparent debility*. In one of the cases the following state of the intellect is noticed, and is regarded by Dr. Mills as contributing to form the diagnosis between gastric and cephalic fever.

"This patient occasionally laboured under low delirium, but when roused, was collected and rational, a circumstance worthy of remembrance, because it may serve to distinguish this variety of fever from the cephalic, in which the intellectual powers are so disturbed, that the patient can with difficulty be excited to give a distinct answer, or, if excited, immediately relapses into a state of stupor or delirium."

Dissections of this variety of fever discovered inflamed and gangrenous spots upon the inner surface of the stomach; a circumstance which has been frequently noticed in dissections of cases of low nervous or typhus fever; and several authors who have observed them are quoted by Doctor Mills; but these traces of inflammation of that organ in low fevers, has generally been regarded rather as a consequence of the disease, than as a primary affection.

Enteritic Fever, as the name implies, is seated in the bowels; but has many of the symptoms common to the hepatic and gastric fevers. Our author justly observes, "it is often an insidious and always a dangerous disease." Besides the usual symptoms of low fever, and those of the gastric, as far as the stomach is concerned; "there is flatulence and distension of the abdomen; the bowels are usually constipated; and the fæces at times are blackish or tar-like." The urine presents occasionally a wheyey appearance. There is pain and a sensation of heat in the lower part of the abdomen, augmented by pressure; and, when it is severe, by coughing, vomiting, sneezing, or even a deep inspiration. The temperature of the body varies above and below the natural standard; the flesh is sore and tender to the touch; and there is a frequent micturition. Doctor Mills is of opinion that constipation, intoxication, fatigue, and exposure to wet, may operate as remote causes of this disease; but the majority of the cases treated by him "were produced by contagion." Dissections displayed marks

* See *Watt on Diabetes*, passim.

of considerable inflammatory action having existed in the small intestines. In one case, of a male patient who died on the fourteenth day of his illness, "different portions of the external coats of the jejunum and ilium were inflamed and thickened; upon their internal surface were found three patches, each about the size of a shilling, in a state of mortification; the colon was sound, but distended with air." (p. 201.) The other abdominal viscera presented few appearances of disease, except the pancreas, which was of an unusually deep colour. In another dissection, in which the brain was also affected, "the duodenum was slightly inflamed and mortified in three different places, in each to the extent of about two inches; the colon was considerably distended with air; and a large portion of the internal coat of its transverse arch was found in a state of suppuration." —p. 202.

Cardiac Fever, the last variety described by Dr. Mills, comprehends cases in which the heart is supposed to have been primarily engaged. In this fever, "the patients describe their feelings by the terms soreness, weight, anguish, bursting, dragging, and constriction about the heart:" these feelings are accompanied by palpitation, with laborious hurried respiration, often stertorous, when the disease is about to terminate fatally; and with a frequent, irregular, sometimes hard pulse. Its causes are stated to be "exposure to wet and cold, intemperance in eating and drinking, long fasting, the depressing or the violent passions; and the suppression of any accustomed hemorrhage or evacuation." Dissections prove that the heart has been affected by inflammation. In one of the cases described by Dr. Mills, "the vena coronaria was distended by blood; the right auricle and ventricle were inflamed and lined with a layer of coagulable lymph; a small spot of extravasated blood was noticed on the surface of the left ventricle." p. 208.—In the treatment of the two last described fevers, blood-letting was carried to a much greater extent by Dr. Mills, than in the former varieties; and we are disposed to give him full credit for the propriety of the practice.

The volume concludes with some reflections on the distinctions of fever. Dr. Mills is of opinion, that the grand division of fevers into intermittent and continued, is improper*; and founds his arguments on what he conceives to be the fact, that the assemblage and train of the symptoms, the causes, and the remedies required for the cure of both these

* This opinion is not altogether peculiar to our author. Dr. Fordyce and others believed that all fevers whether intermittent or continued were varieties of the tertian. See *Fordyce's Dissertation on Simple Fever.*

classes are the same. "The remedies which prove serviceable," says he, "in the continued, are blood-letting, cathartics, sedatives, and diluents; and these I have found equally useful in the intermittent fever." Now without inquiring into the justness of the hypothesis, which asserts that continued and intermittent fever are simply modifications of the same disease, we cannot avoid condemning strongly the sweeping conclusion which our author has drawn regarding the use of remedies, from the assumption of its truth: and for the sake of the student in particular, we shall state how far blood-letting in our opinion is admissible in the treatment of agues. When the natural habit of the patient is phlethoric, vigorous, and inclined to assume the inflammatory diathesis, or when in the hot stage of the paroxysm excitement is very considerable, and particularly if any tendency to local inflammation exist, blood-letting is not only admissible but absolutely requisite: but, even under these circumstances, the abstraction of blood should be resorted to chiefly during the first paroxysms. Although we are willing to admit that the inflammatory diathesis is, perhaps, the most prevalent cause of protracted and obstinate ague, yet, we do not hesitate to assert, that in ninety cases of one hundred of this disease, blood-letting is not only not requisite, but would be productive of mischief. We are fully aware that dissections of fatal cases of intermittents have displayed traces of visceral inflammation, and even of sphacelation; but these would produce the indications we have pointed out, during the life of the patient, and consequently would imply the necessity of blood-letting in the particular instances.

Dr. Mills has subjoined a neat tabular view of 237 cases of fever which occurred in the months of May, June, July, and August; and the following abstract of the result of his practice in 209 patients, which, if its correctness be admitted, forms the most potent argument he can advance in favour of his plan of treatment.

"In the year 1810, in the House of Recovery and Fever Hospital, Cork Street, 209 patients were blooded—of this number there were

45 cases of	Cephalic Fever,	
34 ———	Hepatic,	
31 ———	Pulmonic,	Died,
22 ———	Enteritic,	2 of Cephalic Fever.
15 ———	Gastric,	2 — Pulmonic.
11 ———	Cardiac,	1 — Enteritic.
3 ———	Peritonæal,	1 — Hepatic.
5 ———	Remittent,	3 — Mixed Fever.
43 ———	Of Mixed Fever.	

"Here the average proportion of deaths to recoveries was somewhat less than 1 in 23.

" In St. George's Dispensary and Fever Hospital, during the last three years, I employed blood-letting in the treatment of 91 patients, of whom

18 had Cephalic Fever,	
14 — Hepatic,	
10 — Pulmonic,	Died,
9 — Gastric,	4 of Mixed Fever.
8 — Enteritic,	—This makes the deaths
4 — Cardiac,	to the recoveries not quite
2 — Peritonæal,	1 in 25."—p. 220.
8 — Remittent,	
18 — Mixed Fever.	

In summing up the evidence in judgment on the volume before us, we do not hesitate to say that it contains much important matter; and, independent of its own intrinsic value, as the production of a mind of bold and original structure, it is calculated to produce very important benefits, by leading practitioners to examine closely the propriety of the common mode of managing the formidable class of diseases of which it treats. Every innovation in medical science is, perhaps fortunately, slowly adopted; and in the present instance many experiments are yet required to fix exactly the circumstances under which the evacuant plan, to the extent proposed by our author, may be beneficially pursued in fever. We are not afraid of any mischief resulting from its sudden adoption. The well-informed practitioner, who thinks for himself, will weigh its merits by his own previous observations and experience, before acting upon it; while the man of mere routine, will jog on as usual, until roused, by the reiterated success of others, to venture on its application.

With regard to the literary labour of the volume, justice compels us to say, it is extremely ill executed: and we cannot but regret the frequent necessity of passing such a sentence on medical writings, which are otherwise of the highest value.

PART IV.

SELECTIONS.

Abstract of an Act for the more effectually Preserving the Health of His Majesty's Subjects, for erecting an Apothecary's Hall in the City of Dublin, and regulating the Profession of an Apothecary throughout the Kingdom of Ireland. Anno Regni tricesimo primo Georgii III. Regis.

Whereas not only many but great inconveniencies have arisen from the want of an Hall amply supplied with Medicines of the

purest quality, prepared under the inspection of persons well skilled in the art and mystery of such preparations, but also frequent frauds and abuses have been imposed and practised on many of His Majesty's subjects within the City of Dublin, and the liberties thereof, and in other parts of the kingdom of Ireland, by the ignorance and unskilfulness of divers persons pretending to the Art and Mystery of an Apothecary, to the injury of the fair trader, the disappointment of the physician, and the imminent hazard of the lives of His Majesty's faithful and loyal subjects throughout the realm: And whereas the Master, Wardens, and Commonalty of the Corporation of Apothecaries, and other Apothecaries of the City of Dublin, have by their petition humbly prayed that an Act be passed, enabling them to raise a fund for the purpose of erecting such Hall, with such clauses, powers, jurisdictions, and authorities as may in future prevent such frauds and abuses, and thereby tend to preserve the health of His Majesty's subjects: And in as much as Henry Hunt, Anthony Thompson, John Hastings, Peter Kelly, George Kiernan, Richard Magan, James M'Laughlin, Daniel Moore, John Pentland, Foden Perrin, Robert Powell, Stephen Reynolds, Charles Ryan, John Usher, and Richard Usher, have each subscribed the sum of one hundred pounds, for the purpose of creating a fund for the erection of such Hall; Be it enacted by the King's Most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons in this parliament assembled, and by the authority of the same, That from henceforth, there shall be within the City of Dublin, and suburbs and liberties thereof, one company or fraternity of judicious Apothecaries well skilled in preparing and compounding of Medicines, to consist of one governor, a deputy-governor, and thirteen directors, and the subscribers.

2. And it is hereby enacted, declared, and constituted, That the said Henry Hunt, Anthony Thompson, John Hastings, Peter Kelly, George Kiernan, Richard Magan, James M'Laughlin, Daniel Moore, John Pentland, Foden Perrin, Robert Powell, Stephen Reynolds, Charles Ryan, John Usher, Richard Usher, and others, Apothecaries of the said City of Dublin, are, and from henceforth shall remain one Body Corporate and Company, in matter, deed, and name, by the name of the Governor and Company of the Apothecaries' Hall of the City of Dublin, and them by that name one Body Politic and Corporate, are hereby enacted, made, created, established, and confirmed, and by the same name they and their successors shall have perpetual succession.

3. [Company to have a seal; may alter it at pleasure; may possess any estates of whatever kind; may purchase and dispose of all possessions, goods, and chattels; may sue and be sued by the same name.]

4. And be it further enacted by the authority aforesaid, That all such judicious Apothecaries resident in the City of Dublin, or within the suburbs or liberties thereof, or who have been heretofore Apothecaries resident within the said city, suburbs, or liber-

ties thereof, for the term of seven years, who shall hereafter subscribe a sum of one hundred pounds each respectively, shall be, and they are hereby enacted and ordered to be members of the said corporation, and shall be entitled to all the benefits and advantages arising therefrom equally, and in as full and ample a manner as the said original subscribers; provided nevertheless, that the said company shall not at any one time consist of more than sixty members.

5. [There shall be for ever, from time to time, a governor, deputy-governor, and thirteen directors.

The governor, deputy-governor, or one them, and any five directors to be called a Court "for inspecting and directing all chemical and compound preparations and experiments, and for ordering, managing, and directing the affairs of the said corporation, and shall have such powers and privileges as are herein after mentioned."

Appointment of the first governor, deputy-governor, and thirteen directors, and the said governor, deputy governor, and directors shall continue in their present respective offices, until the first day of September, one thousand seven hundred and ninety-two, and until others shall be chosen in their respective offices, and sworn into the same, unless they or any of them shall sooner die or be removed, as herein after mentioned.]

6. [Corporation may assemble in any convenient place, till a Hall be built.

Notices of meeting eight days previously to the same.

So many as are assembled to be called a General Council.

After first of September, 1792, governors, &c. to be chosen every first of August, except it fall on a Sunday, and then on the Monday following such Sunday for ever, out of the Members of the said corporation, by the majority of votes of all and every the Members of the said corporation, who shall be personally present at such elections, which succeeding deputy-governor and directors shall be severally and respectively elected for one year, and until others shall be duly chosen and sworn into their places respectively.]

7. [In cases of death, avoidance or removal of any of the council, the corporation may assemble, and elect others.]

8. [Oath, or affirmation of the governor and deputy-governor.

Persons by whom the said oath may be administered; viz. the Chancellor, or Keeper of the Great Seal; or by the Chancellor, or Chief Baron of the Court of Exchequer, in Ireland, and the preceding governor or deputy-governor of the corporation.]

9. [Directors not to act till they have taken the oath.]

10. [Every member to make oath.]

11. [The court of directors may administer an oath to all their agents and servants.

If a governor or director shall neglect to take the oath appointed ten days after the election, the office shall become vacant.]

12. [Governor to summon four general courts a year. In failure, five directors may call a general court.]

13. And it is hereby further enacted, That the said governor for the time being, or in case of his absence the deputy-governor, shall from time to time, upon demand to him for that purpose made in writing, and signed by any five or more members of said corporation, within ten days after such demand, summon and call a general court of the members of the said corporation; and in default of the governor or deputy-governor to call such court, that then it shall and may be lawful to and for the said five or more members, giving ten days previous notice thereof by summons in writing, to be left at the place of residence of each member, to summon and hold a general court, and there to do and dispatch any business relating to the government or affairs of the said corporation, and to hear and debate any complaint that shall be made against any governor, deputy-governor, or director, for mismanagement of his or their respective offices; and if such governor, deputy-governor, or directors, shall not clear himself or themselves of such complaint, to the satisfaction of the major part of the members of the said corporation in the said general court assembled, that then within ten days another general court shall be called, finally to determine the same by the majority of their votes as aforesaid, who may remove or displace all or any of the governor, deputy-governor, or directors, for such misdemeanors or abuse of their offices, and elect and choose others in his or their room, in the same manner as the said elections are herein before directed to be made; and in every case where any governor, deputy governor, or director, shall happen to die or be removed, or his office shall otherwise become void before the expiration of the time for which he shall have been elected, it shall and may be lawful for the major part of the members of the said corporation, assembled in a general court, to elect and choose any other member of the said corporation into the office of such governor, deputy governor, or director that shall so die or be removed, or whose office shall become void, which person so to be chosen shall continue in the said office until the next usual time hereby appointed for election, and until others shall be duly chosen and sworn.

14. [Governors and directors, or any five of them, may meet at any place, till a Hall is erected afterwards, at such Hall; where by-laws, constitutions, &c. and all business may be transacted, as if the same were done by a general court of the corporation.]

15. [When the governor or deputy-governor shall be absent, from incapacity, by sickness, or otherwise, which shall be signified in writing, a chairman for the time shall be chosen, having the same authority as the governor, and the acts of that meeting shall be valid.]

16. [Sworn members at a general court, consisting of not less than fifteen may make by-laws, and impose mulcts and amerciaments.

By-laws not to be repugnant to the laws of the kingdom.

Nor for composition of medicines without the approbation of the College of Physicians.

Governor, deputy-governor, and directors to be allowed salaries if it be deemed meet.

No governor, deputy-governor, or chairman, in the absence of any governor or deputy, shall have any vote in a general court or courts of directors, save where there shall happen to be an equal number of votes.]

17. [Notice of intention to withdraw to be given at a general meeting.

Any judicious practising apothecary, resident in Dublin or the liberties, may purchase such member's share.

Transfers to be entered into the books.

Form of transfer.

If the persons assigning be not present, entry to be made.

Form of entry.

Transfer to be signed by person to whom made, and such entry to be the only manner of transferring stock.

Upon the death of a member, any resident apothecary may purchase; and the value to be paid to the representatives.

Entry to be made as before.

All such transfers good in law.]

18. And in as much as many dangerous and fatal consequeuces have hitherto arisen from the practice of taking as apprentices to the art and mystery of an apothecary, boys or persons disqualified by the want of proper education, to prepare or vend medicine, not being capable of learning their nature, difference, effects, and qualities, to the imminent hazard of the lives of His Majesty's faithful and loyal subjects; be it enacted by the authority aforesaid, That from and after the twenty-fourth day of June, in the year one thousand seven hundred and ninety-one, no person or persons shall be received, taken, indented, or employed as an apprentice, foreman, or shopman to any Apothecary throughout the kingdom of Ireland, until he or they shall be examined by the governor, or deputy-governor, and directors of the Apothecaries' Hall of Dublin, any five to make a quorum, who are hereby authorized and required to examine into the education and qualifications of such person or persons who shall apply to them for that purpose; and the majority of such examiners are hereby authorized and empowered, after such examination, to certify that such person or persons so applying to them, as shall appear to such examiners properly qualified to become an apprentice or apprentices, journeyman or journeymen, to learn or transact the business of an Apothecary, in the manner or to the effect following, that is to say:

To all to whom these presents shall come, greeting. Know ye, that we, the governor, deputy-governor, and directors of the Apothecaries' Hall of Dublin, have this day duly and carefully examined A. B. the son of C. D. of, or late of (as the case may be) in the county of and we think him educated or qualified to become an apprentice or journeyman (as the case may be) to learn or transact the business of an Apothecary; and

we do hereby certify the same.

Given under our seal, the day of in the year of our Lord

19. Provided nevertheless, That if such examiners, or the major part of them, shall see cause to refuse such certificate to any person applying to become an apprentice or shopman, yet it shall and may be lawful to and for such person or persons who shall be so refused, to apply at any future time, so as the same be not within six months of such first examination, to be again examined; and if on such second examination he shall appear to the examiners, or the major part of them, to be then properly qualified, it shall and may be lawful for the said examiners, or the major part of them, to grant such person so applying such certificate as herein before mentioned.

20. [After second examination, person aggrieved may appeal within ten days to the general council, or subscribers at large.

General council to affirm or reverse judgment, upon re-examinations, fifteen members being present.

If reversed, a certificate to be granted as before mentioned.]

21. Oath to be taken by examiners.

Examiners to administer an oath to each other.]

22. And be it further enacted by the authority aforesaid, That from and after the twenty-fourth day of June, in the year of our Lord one thousand seven hundred and ninety-one, no person shall open shop, or act in the art or mystery of an apothecary within the kingdom of Ireland, until such person shall have been examined as to his qualification and knowledge of the business, by such persons and in such manner as herein before mentioned and required, for the examination of persons applying to become apprentices or shopkeepers; which examiners shall take the oath before mentioned, in manner as herein before required, and shall grant or refuse to the person so applying for a certificate to open a shop, or follow the art and mystery of an Apothecary within the kingdom of Ireland, with the like remedy of appeal as herein before mentioned.

23. And be it enacted by the authority aforesaid, That after such examination by the general council, or subscribers at large, such person so intending to open shop shall think himself aggrieved, that it shall and may be lawful for such person, within eight days after such determination, to appeal to the King and Queen's College of Physicians in Ireland, who shall proceed to re-examine the person so applying, and shall, as they or the major part of them shall see cause, affirm or reverse the judgment of such examiners, not less than five fellows of the said college being present; and if the members of the said college, or the major part of them, on such re-examination, shall be of opinion to reverse the determination of the examiners, then that it shall and may be lawful for the members of the said college, or the major part of them present on such examination, to grant to the person so appealing such certificate as herein before mentioned, and the same so granted shall be as good, valid,

and effectual in law, to all intents and purposes, as if the same had been granted by the examiners in the first instance; provided always, That before any fellow of the said college shall examine on such appeal, he shall take the examiner's oath herein before mentioned.

24. Provided also, That it shall and may be lawful for all Apothecaries to be present at every such examination, and that every such person, for every such certificate to open shop, shall pay a sum of ten shillings, and no more; and for every person for a certificate to become an apprentice or journeyman to an Apothecary, the sum of five shillings, and no more; which sums shall be and enure to the sole use and benefit of the said company of the Apothecaries' Hall of Dublin.

25. And be it enacted by the authority aforesaid, That from and after the twenty-fourth day of June, in the year of our Lord one thousand seven hundred and ninety-one, no Apothecary within the kingdom of Ireland, shall have, take, receive, indent, or hire any apprentice to learn the art and mystery of an Apothecary for a lesser time or term than seven years, from the day of the date of such indenture, article, minute, memorandum, or agreement; and every such indenture, article, minute, memorandum, or agreement, shall bear date really and truly the day of such indenture, article, minute, memorandum, or agreement, shall be signed, executed, or entered into.

26. And be it further enacted by the authority aforesaid, That if any Apothecary within the kingdom of Ireland, shall, after the twenty-fourth day of June, in the year aforesaid, have, take, indent, receive, or hire any person or persons as an apprentice or as a shopman, journeyman, foreman, overseer of his shop, or manager of his business as an Apothecary, or shall open shop or ware-room for the retail of medicine, or practise the art and mystery of an Apothecary within the kingdom of Ireland, without such person or persons having obtained the proper certificate for that purpose herein before directed; or shall take any apprentice for less time than seven years, whose indentures shall be enrolled in a book to be kept for that purpose by this corporation, for which the sum of one shilling shall be paid, such person so offending shall, for every such offence, forfeit the sum of twenty pounds, to be recovered by the governor and company of the Apothecaries' Hall of Dublin, by action of debt, suit, plaint, or information, in any of His Majesty's courts at Dublin, wherein no essoign, protection, privilege, injunction, wager of law, or stay of prosecution by *non vult ulterius prosequi*, shall be admitted or allowed, or any more than one imparlance; and the sums so recovered shall be and enure to the use of the said company.

27. And provided also, That nothing herein contained shall extend or be construed to extend to any apprentice or shopman, or Apothecary's foreman, or owner of the shop, or manager in or about the business of an Apothecary as aforesaid, who shall ap-

pear to have been really and *bona fide* taken, received, indented, or hired, or to have opened shop before the passing of this act.

28. And be it further enacted by the authority aforesaid, That no Apothecary within the kingdom of Ireland, from the twenty-fourth day of June, one thousand seven hundred and ninety-one, shall grind, compound, sell, or keep any arsenick, oils, or colours for painter's use, in the shop or room wherein he compounds medicines, under a penalty of five pounds, the same to be forfeited and go to the use and fund of the governor and company of the Apothecaries' Hall of Dublin, to be recovered by them in the same manner, and with the like restrictions as the other penalties under this act.

29. [To be taken as a public act.]

30. And be it further enacted by the authority aforesaid, That every Apothecary, Druggist, or other such person selling any quantity less than one pound weight of arsenick, shall at the time of such sale, and before delivering, enter in a book to be kept for that purpose, the quantity sold, and the time when it was so sold, to which entry the person buying shall sign his or her name, addition, and place of abode; or in case such person so purchasing cannot write, the name, addition, and place of abode of such person being first written, such person shall set his or her name thereto, and the same shall be attested by such Apothecary or Druggist, or some other person present; and in case such Apothecary or Druggist shall not know the person buying to be of such name, or place of abode, then such Apothecary or Druggist shall not deliver such arsenick until it shall be certified to him by some person known to such Apothecary or Druggist, that the person buying is the same as he or she describes himself or herself to be; and in case any Apothecary or Druggist selling arsenick shall fail herein, he or she shall forfeit the sum of twenty pounds, to be recovered as herein after mentioned.

31. And be it further enacted by the authority aforesaid, That in case any mischief shall arise to the person or property of any individual, by means of such arsenick so sold, and that such Apothecary or Druggist so selling shall happen to die, then and in such case such book shall be received as evidence in any Court criminal or civil in this kingdom, of the sale and delivery of such arsenick to such person so signing, upon any trial to be had at law respecting such mischief, the hand-writing of such person so signing being first proved in the usual way.

⁂ Our object in giving a place to this Abstract, is the same as that which induced us to insert in the preceding numbers of the Repository, the Charters of the three Medical Corporate Bodies of England. At a moment when a great, and we fervently hope a beneficial, change in the condition of the general Practitioner is contemplated in this country, it must be a subject of considerable interest to ascertain the effects of a comparatively recent Act for

the Regulation of the Profession of the Apothecary in the Sister Island.

We conceive that by publishing these documents, and the practical results of the Irish Act, we are rendering more essential service, than by admitting dissertations on evils that are fully developed and acknowledged; illiberal reflections that tend, by the party feelings they excite, to retard the good work; or by offering any abstract reasonings of our own, the motives of which might be suspected or misconstrued.

Under this impression, we shall confine ourselves to the addition of such information as we have extracted from the letter of an intelligent correspondent in Dublin; whose respectability and long experience entitle him to implicit confidence.—Editors.

"Previous to the act of 1791, the shameful practice of the London druggists adulterating the essential articles shipped for this country, together with the want of police, or internal regulation among the Apothecaries, having much degraded them in the public opinion, an intelligent and spirited individual of the body, uniting, by frequent meetings, the disagreeing members, produced such a representation of their condition, as attracted the attention of the Legislature, and gave birth to the Corporation of Apothecaries' Hall. I will endeavour to shew how far the general state of the profession is influenced by that institution.

"The act of 1791 has improved the character and ability of the Apothecaries of *Dublin*, and none others. This arises from the expence of prosecuting suits against unqualified persons in the country, sometimes exceeding the penalty; in many instances from a failure in conviction, and in others from the difficulty of procuring informers. The refusal of grand juries to compensate for the expences incurred in these suits, has also contributed to induce the Hall to give up the struggle; so that empiricism out of Dublin has received no check by the act of 1791.

"The examination for Master is sufficiently strict; comprehending a pretty full acquaintance with Chemistry and Botany, and a perfect knowledge of Pharmacy; and of late, it extends in some respects to the practice of physic: the Assistant's examination only varies in degree: the Apprentice must answer out of Virgil, Horace, and Sallust, and the Greek Testament.

"All Apprentices are not obliged to repair to the Hall for examination; because the practising of unqualified persons out of Dublin is not strictly enforced. But this rule is pretty generally complied with, because the young men wishing to come to Dublin for improvement or preferment would be precluded from examination as Master or Assistant, if the Apprenticeship examination were not on record at the Hall.

"Druggists do not make up prescriptions; but they sell to the public the simple medicines, in the smallest quantities, and as cheap as to the Apothecaries, with the exception of two houses in Dublin.

"The charge of a crown a visit, within the precincts of the city

is now seldom made, having afforded an opportunity to many, who thought proper to forego it, of seducing their patients from those who made it. The Hall now exercises a discretionary power as to this claim, according to the ability of the party to pay. This power, which in a good measure protects the middle class of society from imposition, has occasioned an imputation on the impartiality of the directors, who are sometimes accused of showing favour to those of their own body, coming before them for taxation. The prices of Medicines also in general are subject to the same discretion, and are often reduced; and in no case ever exceed the scale published in 1804*. The undefined state of these charges has left the public, with regard to the employment of Physicians, in much the same state as before.

"The Apothecaries of Dublin have increased since the passing of the act of 1791; there are now about 90. The population of Dublin is about 300,000.

"The Physician, the Surgeon, and the Apothecary, are entirely distinct, and the union of the practice of any two would be considered an anomaly not to be tolerated. This is without exception the case in Dublin, and indeed is almost general through the island."

PART V.

MEDICAL AND PHYSICAL INTELLIGENCE.

LECTURE XII. *On Respiration.* By Professor BRANDE. *At Apothecaries' Hall.*

RESPIRATION is a function by which the venous blood being exposed in the lungs to atmospheric air, is converted into arterial blood, and rendered fit for the support of life; that is, for the reproduction of parts, for forming the most important secretions, and for keeping up the peculiar energies of the nerves by stimulating the brain.

It is only within the last forty years that we have been able to investigate, with any degree of precision, the phenomena of Res-

* This scale is the last published by authority; it is hung up in some conspicuous place in the Hall, is signed by the governor and secretary, and is admitted as the legal standard for charges. At some future opportunity, *as matter of curiosity*, we may give a copy of it.—EDITORS.

piration; that is, since the discovery of oxygen by Dr. Priestly, on the 1st of August 1774. To the researches of the celebrated Lavoisier, respecting the constitution of the atmosphere, we are also greatly indebted.

That the blood undergoes many changes, was observed by Harvey; but his discoveries were of course very incomplete till connected with those of Priestly and Lavoisier; and it is not matter of surprise, that there are still several questions relating to it yet imperfectly understood. Many experiments have been tried of the action of different gases on respiration, the particulars of which will be found in the excellent systematic works of Dr. Thomson and Mr. Murray. They may be considered under five heads:

1. Unrespirable. *Carbonic Acid.*—If attempts be made to respire this gas, the epiglottis immediately closes spasmodically on the larynx, and suspends respiration. This has been compared to drowning, and in both instances death is solely produced by suffocation. The carbonic acid stimulates the epiglottis, and fresh air is excluded from the lungs; and there are many instances of death from being exposed to its influence. It is in this way that persons have been killed by being in a room where braziers of charcoal have been burning. Dr. Babington has given a very circumstantial and philosophic account of a fatal occurrence of this kind. In this case the peculiar action of the gas brings on cough, which rather increases the mischief, by the attempt at inspiration.

By being deprived of fresh air, the lungs and the diaphragm cease to act; but the action of the heart goes on. If the thorax of an animal thus suffocated be opened, the heart will be seen acting; venous blood still circulates, and is carried to the head, but does not there produce the same effect as arterial blood. Throw fresh air into the lungs, and the stimulus of arterial blood upon the brain causes the lungs and diaphragm to begin to act, and life is restored.

Mr. B. conceives that the real theory of suspended animation is little understood, and consequently that many lives are lost by a wrong mode of treating persons in that situation: for many valuable remarks and experiments on these subjects he referred to Mr. Brodie's papers in the late volume of the Philos. Trans.

2. Gases that pass the epiglottis enter the lungs, and kill by suffocation. These are *Hydrogen and Azot.* They produce no chemical action upon the blood. According to the experiments of Messrs. Allen and Pepys, hydrogen and oxygen may be mixed and breathed an hour; but they produce drowsiness.

3. Gases that kill by producing chemical changes in the blood, are, *Sulphuretted Hydrogen*, *Nitric Oxide*, *Carboretted Hydrogen*, *Carbonic Oxide*, *Oxygen*, and *the Nitrous Oxide*, and probably many others.

4. Respirable Gas. *Atmospheric Air*—which is the only one that can be breathed for any length of time without injury to the animal; and the proportion of its components, viz. nitrogen and oxygen, is so nicely balanced and fitted for the purpose intended,

that any difference in its composition would render it noxious to life.

The uneasiness felt in crowded rooms, Mr. B. attributed not so much to the air being contaminated with carbonic acid produced by the respiration of many persons, as to its rarefaction, which obliged us to breathe very quick to aërate the blood sufficiently: for chemical analysis could not detect any great excess of carbonic acid in these cases, unless indeed the air was confined. Candles too, by burning in rooms, rapidly deteriorate the air; hence, in all cases, the necessity of perfect ventilation, by which the foul air will be carried off, and a fresh supply continually kept up.

The number of respirations which a person commonly makes in a minute, is from eighteen to twenty-six. The average may be twenty-two. Twenty-six respirations in a minute are more common than eighteen. We must not be guided by counting over our own respirations, because being under the influence of the will, they are modified by the experimenter.

The next point to determine is, the quantity of air taken into the lungs at each inspiration. This must naturally vary with the capacity of the chest. Physiologists have fixed forty cubic inches as the quantity; but these inspirations were forced. In natural breathing, the quantity does not exceed ten cubic inches; but the average must differ also from the capacity of the lungs. Allen and Pepys find, that the lungs after death retain on an average one hundred cubic inches of air; one hundred and forty cubic inches is the most they are capable of containing. It has been proved, that if the same air be breathed a second time, it causes a sense of oppression; and if it be breathed a third time, or oftener, suffocation at length ensues. Hence it is plain, that it undergoes certain changes, which take away what has been termed the *pabulum vitæ*.

It has been supposed, that in respiration, air is actually absorbed; that is, if ten cubic inches be inspired, about nine-fifths only will be expired; but this statement is inconclusive, for it is impossible to be certain that the lungs are precisely under the same state of compression, and consequently of the same capacity in any two experiments.

That carbonic acid is formed during respiration, is easily proved by breathing through lime-water, which instantly becomes turbid. The quantity given out varies from half a cubic inch to one cubic inch and a half; but a greater portion is evolved during the process of digestion, whilst new blood is forming from the chyle; the whole is calculated at thirty-seven ounces troy in twenty-four hours; or, according to Dr. Thomson, forty thousand cubic inches, which contains nearly three quarters of a pound of carbon. Allen and Pepys found that the quantity of carbonic acid formed, was precisely equal to the volume of oxygen consumed.

It has been mentioned, that the greatest quantity of carbonic acid is thrown off during digestion. Dr. Prout, in a paper lately

published in Thomson's Annals, denies this position; but Mr. B. did not conceive his experiments sufficiently correct to warrant some of his conclusions.

Mr. B. observed, that as the charcoal is in a gaseous form, when carried off from the blood, it escapes notice; but if it were reduced to a solid form, it would excite great surprise; as it shews how very important are the changes produced upon the blood by respiration. Besides, carbonic acid water is emitted. It varies very much in quantity; but thirty ounces in twenty-four hours is the average. This appears a secretion from the exhalents of the lungs, and not produced in a manner similar to the carbonic acid, by the union of hydrogen and oxygen, as some physiologists have unwisely asserted.

It has been shewn, that the proportion of carbonic acid, evolved by respiration, is smallest during sleep; the phenomena of which may, perhaps, in part be accounted for upon this circumstance—blood perfectly arterial is necessary to stimulate the brain to all its functions; venous blood on the contrary, if circulating through the brain, impairs or even destroys its functions: may not an intermediate state of aëration produce intermediate effects?

The next point of inquiry in the present discussion, relates to the changes effected in the blood itself.

With respect to the change of colour, there can be no doubt that it depends *chiefly* upon the removal of carbon from the blood, and not, as Fourcroy and others have conceived, upon the oxygenation of iron, or any other principle of that description.

Venous blood appears to contain charcoal in some peculiar state, which enables it, at common temperatures, to unite to oxygen, and produce carbonic acid; and Mr. B. believed, that, when there was not a sufficiency of oxygen to remove the whole of the charcoal, a portion was taken up by the absorbents, and carried into the glands placed in the angles formed by the subdivisions of the bronchiæ, and at the root of the lungs. Some time ago Mr. B. at the request of his friend Mr. Wilson, examined the black matter in these glands, and found it to be charcoal; and more lately Dr. Pearson had not only arrived at the same results, but had found charcoal in the absorbents leading to these glands.

Connecting these facts with those which he had observed respecting the nature of the colouring matter of the blood, Mr. B. thought that the change of colour which venous blood suffers in the lungs might be satisfactorily explained.

The colouring principle of the blood is a peculiar animal substance of a bright red colour—soluble in the alcalies, and in many of the acids, without apparent decomposition. "The brilliant tint of this substance," said Mr. B. "is obscured in venous blood by carbonaceous matter; but when that is removed by the oxygen in the lungs, the native hue of the colouring principle is apparent."

Mr. B. then alluded to a variety of experiments, proving that,

although minute portions of iron might be found in the blood, as well as in most other animal fluids, the colouring principle was obviously independent of that metal. This had been insisted upon some time ago by Dr. Wells; but little attended to until the subject was further investigated by Professor Berzelius and himself.

In the last lecture was explained the manner in which food was converted into chyle, taken up by the lacteals, and poured into the venous blood. Fourcroy has said that the coagulable lymph contains more azot, and less of hydrogen and carbon, than of any ingredients of the chyle; therefore in the change that takes place from chyle, it may be imagined that hydrogen and carbon are abstracted.

Mr. B. knew not whether Fourcroy's theory be fully warranted; but as it presented apparently a good explanation, he had admitted it till a better should be substituted.

The temperature of the animal body is an important subject of consideration. It is observed that the temperature of all perfect animals is nearly the same, that is, 98°. Whether we are in a room heated to 200°, or in the most frigid region, the body preserves a given temperature. This is ascribed to various causes. Dr. Black's discovery of latent heat appeared to throw an important light on this subject; and Dr. Crawford's experiments, proving that different bodies contained different quantities of heat, appeared to furnish an excellent explanation of animal heat; for the capacity of oxygen for heat being greater than that of carbonic acid, heat should be evolved during the conversion of the former into the latter: thus was it conceived that the cause of animal heat was distinctly ascertained.

Mr. B. now referred at length to Mr. Brodie's experiments, the results of which were, that in a decapitated animal, the action of the heart may be kept up by artificially inflating the lungs so as to imitate respiration; that the colour of the blood is thus changed in the same way as during the perfect life of the animal; that oxygen is converted into carbonic acid—but still no heat is evolved, the animal cooling as fast as if no artificial respiration were performed; as if the blood were suffering no change; as if no carbonic acid were produced.

After these facts, said Mr. B. it is quite impossible to admit Dr. Crawford's hypothesis; and we must look to another quarter for the source of animal heat, namely, to the brain and nervous system, the recondite energies of which preside over the temperature of animals. In short, this evolution of heat is a function, not dependent upon any one simple change, but arising out of the healthy operation of the nervous and vascular system upon each other; out of the mutual co-operation of the vital and organic functions. To search for the cause of such phenomena with a view of referring them to chemical or mechanical agencies *only*, is to look for the living among the dead. Mr. B. regretted that his time did not admit of entering more fully into this present extensive, interesting, and important subject; he would beg leave, how-

ever, to conclude with a few remarks upon the respiration of inferior animals.

The Mammalia in general breathe like man—like him they require a large supply of oxygen, and produce a large proportion of carbonic acid. Fish absorb air dissolved in water, and also produce carbonic acid. This would soon accumulate in the water to a fatal extent, were it not that Nature had provided a means of decomposing it, and restoring oxygen by the operation of aquatic plants, which during the day evolve respirable air.

Amphibia require less air. Toads have been known to live in the substance of trees and stones, but it does not follow that air was excluded. It only proves that less oxygen is required for their existence, than for other animals; for upon examination of the air they have breathed, it is found to have undergone the same change as above related. Insects breathe not by lungs, but by the surface of their bodies. Their blood, or fluids, are conveyed through cells, and if these cells are plugged up, they die. Man also breathes by the skin, as is proved by the experiment on invisible perspiration; but he breathes by the lungs too, which insects do not seem to require.

It has been questioned if any animals live without air. Berzelius conceived the affirmative, because he had found animals in a solution of green sulphate of iron, where there can be no air. But supposing this a correct statement, they may rise to the surface, and breathe: For Nature has given such adjustments to every living creature, that each is adapted to the medium in which it is intended to live. Thus we find animals in animals, as Hydatids; and we discover them in the most putrid matter, which appears so obnoxious to vitality. Of the functions of these, little is known, therefore it were vain to reason upon them.

In torpid animals the temperature is the same as in others; but the blood is not oxygenized to its maximum; therefore, though the influence of the brain keeps up the action of the heart, yet the animal is not excited to its other functions; but its temperature is preserved: and this also militates against Dr. Crawford's doctrine.

Mr. B. purposes to give one Lecture more to finish the Course.

ROYAL SOCIETY.—March the 17th, a paper on the means by which vitality is supplied to the living system, by Dr. Chrichton of St. Petersburgh, was read. Dr. C. conceives that there is a continual waste of vitality during life, and therefore that a regular supply is necessary. He thinks that this vitality is furnished by the food, and believes that the food contains particles endowed with vitality, and that this vitality is neither destroyed by the destruction of the organic texture, nor by the heat to which the food is exposed. He made decoctions of camomile, feverfew, nutgalls, &c. in distilled water, put the decoctions into glass jars inverted over distilled mercury, and introduced into them oxygen gas ob-

tained from black oxide of manganese. Numerous confervas made their appearance in these decoctions, and considerable portions of the gas were absorbed. From these experiments he draws as a conclusion, that there are two kinds of particles of matter, namely, organic particles and inorganic particles, and that the vitality of the first is not destroyed by boiling water. In general he found that vegetation commenced soonest when the decoction of flowers is used, and latest when that of roots. These experiments lead directly to the doctrine of equivocal generation, and prove nothing, unless that doctrine be taken for granted. Similar experiments were long ago advanced by Girtanner in support of equivocal generation, and he modestly boasted that he had *created* a vegetable. It may be conceived, that the seeds of the confervas in question have existed in the distilled water, and have risen with that liquid in the state of vapour. The water, to do away such an objection, ought to have been passed through a red-hot tube in the state of vapour. These experiments are far from decisive, and it would be a very difficult task to execute conclusive experiments on such a subject.

Linnæan Society.—On Tuesday the 1st of March a biographical account of Mr. James Don, curator of the botanical garden at Cambridge, was read. He appears to have been a well-informed and industrious man; though his literary labours were confined to the drawing up of a catalogue.

On Tuesday the 15th of March a paper by Dr. Smith, the president, was read, proving the *lepidium nudicaule* of Linnæus, to be a species of the new genus *tesdalea*, lately established by Mr. Brown. Mr. Brown had referred to it only one species, the *iberis nudicaulis* of Linnæus, which is a British plant. Dr. Smith considers the *lepidium nudicaule* as a distinct plant, though resembling the other very closely. It grows at Montpelier and in the south of France.

At the same meeting a description of a new species of warbler, by Dr. Trail of Liverpool, was read. He got the skin of the bird from Brazil, and he considers it as a new species, to which he gives the name of *motacilla xanthopa*. It is chiefly distinguished by two yellow spots behind the eyes.

Dr. Trail terminated his paper with some observations on the bill of the *toucan*, which is well known to be of a monstrous size when compared with that of the bird. It was considered as hollow; but Dr. Trail has shown that it contains within it a honey matter with a fine tissue of blood vessels communicating with the nasal organs of the bird. He conceives it intended to give the animal a very perfect sense of smell, in order to enable it to pick out its food in the almost impenetrable forests where it is destined to live.

Cold washing in Measles.—This practice has been employed some time past in the hospital for prisoners of war at Plymouth, by Mr. Magrath. This gentleman affirms, "That the practice has been uniformly highly beneficial; that he has never seen any of

the untoward circumstances which are usually apprehended, such as retrocession of the eruption, increase of the catarrhal and pulmonary symptoms, &c.; and that, on the contrary, the inflammatory affections of the chest, which are apt to supervene, on the decline of the efflorescence, and which prove the most dangerous part of the disease, appear to be prevented by the suppression of the early excitement, to the continuance of which, these supervening inflammations are to be in a great measure attributed. These facts accord so accurately with well established experience, in regard to scarlet fever and small-pox, that there can be no reasonable hesitation in admitting the solidity of the doctrine as applied to a disease of the same family."

Case of a child who died in consequence of taking strong sulphuric acid, by Dr. Bateman.—"A child, two years and a half old, swallowed about a tea spoonful of this acid at half past four in the afternoon; the mother immediately excited vomiting by putting her finger into the child's throat; the matter brought up resembled coffee-grounds. The child seemed to suffer little pain, except when vomiting, which occasioned crying, and she died easily and almost unperceived at nine the same evening. On the following day, the body was examined in the presence of Dr. R. Bright and Dr. W. Henderson, who are at present attending the Dispensary, and I am indebted to them for the following report:

"The peritoneal cavity was largely distended with flatus; and on opening the integuments, the omentum was seen converted into a black pulpy mass, but still possessing sufficient tenacity to retain the food, which had escaped from the stomach, having been taken a short time before the acid was swallowed. The food consisted of considerable masses of undigested meat, very little acted upon by the acid; there was also a small quantity of the same dark-coloured fluid in the omentum as had been vomited. There was an erosion or aperture in the stomach, about three inches in diameter, situated in the cardiac portion of the large curvature, which was bordered by thickened edges of a dark brown cinder-like appearance: through this the food had escaped. An appearance of inflammation extended towards the cardiac extremity of the stomach; but the œsophagus, with the exception of a little purple blush on some parts, shewed nothing which could indicate violent action. The inflammation did not seem to extend towards the pylorus, and the intestines were free from any inflammatory affection: externally, the latter were strongly marked with tranverse corrugated rings, but were not otherwise acted upon in the slightest degree by the acid; indeed the whole of its action seemed to be confined to the stomach and omentum."

⁎ We are induced to insert this case as an instance of life destroyed by the action of a mineral acid taken into the stomach, with the examination post mortem, as singularly contrasted with the fatal effect of concentrated vegetable acid taken under similar circumstances, as related in pp. 382—386 of this Number.

Society for Preventing Accidents in Coal Mines.—A meeting was lately held at Bishop Wearmouth, Sir Ralph Milbanke in the chair, for establishing a Society, for the purpose of obtaining communications from scientific and practical men, as to what modes may be devised for preventing the mischief that arises from explosions of inflammable gas, &c. in Coal Mines.

Mr. Carpue will commence his Lectures on Anatomy and Surgery early in June, 50, Dean-street, Soho.

Mr. Charles Bell is elected one of the Surgeons of the Middlesex Hospital, in the room of Mr. Whitham, deceased.

Mr. Thomson will commence his Course of Botanical Lectures on Wednesday, the 25th of May next, at three o'clock, afternoon. The lectures will be delivered in Mr. Brookes's Anatomical Theatre, Blenheim Street. Particulars of the terms, and a prospectus of the lectures, may be had of Mr. Callow, Medical Bookseller, Crown Court; or of Mr. Thomson, at his house, No. 92, Sloane Street, any morning or evening. This Course consists of three parts:

The first regards the structure and physiology of vegetables: in which their anatomy is minutely demonstrated; their functions as living beings described; and the changes produced on them after they cease to vegetate pointed out.

The second, comprehends the systematic arrangement and œconomical and medicinal uses of vegetables; in which a view is taken of the artificial and natural classification of Linnæus: illustrated chiefly by specimens of medicinal plants.

The third part details the mode of collecting, preserving, and arranging plants.

Under these three heads every circumstance relative to the doctrines of Phytology is detailed; and the student will have an opportunity of examining recent specimens of medicinal plants, as well as the advantage of an extensive hortus siccus of exotics.

It will be seen in the draft of the Bill, in our Original Communications, that its provisions apply to no other branch of the Medical Profession than the Apothecary. But it is not hence to be inferred, that the intention of procuring Legislative Regulation, as to the Practice of Surgery and Midwifery throughout England and Wales, is abandoned. On the contrary, every possible exertion is now making for an immediate arrangement of these points. When the Committee of the Society of Apothecaries have received the suggestions of the College of Physicians, and of the Committee of *Associated* Apothecaries, &c. and embodied them in their Bill, and the intentions of other Medical Bodies is definitely known, the whole, as already announced, will be laid before the Medical Public.
—Editors.

A METEOROLOGICAL TABLE,

From March the 21st, to April the 20th, 1814,

Kept at *Derby*, Lat. 52°: 58′ N.—Lon. 1°: 20′ W.

M	D.	Therm. Morn.	Therm. Day.	Barom.	Hyg.	Wind.	Rain.	Remarks, &c.
S	21	34	40	29 70	5	E	31	Light Rain.
	22	37	45	70	14	ENE	01	Light Clouds
	23	33	49	70	59	S		Clear
	24	34	46	68	4	WNW	15	Dull
	25	34	46	68	56	W		Cloudy Fine
	26	36	45	65	26	S	06	Light Rain
	27	36	53	86	60	S		Clouds
S	28	37	56	80	85	S		Clear
	29	37	46	63	23	SSW	04	Dull
	30	40	52	85	75	S		Clear
	31	35	52	71	10	S	01	Dull
	1	41	53	65	69	S	22	Light Rain Hail
	2	42	48	34	62	S	07	Clouds
	3	41	49	37	58	S		Clear
S	4	32	51	65	73	N		Clouds
	5	33	53	75	60	S		Light Clouds
	6	41	58	90	62	S		Ditto
	7	48	57	30 05	70	E		Dull Dew
	8	40	62	13	69	E		Clear
	9	39	63	09	70	E		Ditto
	10	34	61	00		E		Ditto
	11	36	61	29 92		E		Ditto
S	12	40	67	80		S		Cloudy
	13	40	67	80		SW	01	Dull Thunder 9 P M
	14	42	69	60		N by E		Clouds
	15	41	65	45		S by E	25	Clouds Dull
	16	46	56	40		S	24	Stormy
	17	46	55	34		S	13	Ditto
	18	43	49	60		SE		Showery
	19	39	55	63		S by E		Light Clouds
S	20	41	63	70		SSW		Clear

On April 9th the Hygrometer was unfortunately broken.

Rain fallen in March 1.11

Observations on Diseases at Derby.

The remarkable change which has taken place in the weather since our last report, has produced a correspondent variation in the state of health and disease. We have had but one frosty night; and the days have been uniformly temperate, occasionally offering something like the heat of summer. Vegetation of course has gone on more rapidly; indeed the whole face of nature seems to congratulate mankind upon the bright prospects which have so lately opened around us.

Catarrhal complaints have, at last, left us; and were it not that the genus of disease, implanted by the severe weather, has ripened into very many cases of scrofula amongst the poorer classes, and consumptions and diseases of great weakness amongst the higher orders, the season would be comparatively healthy.

Inflammatory disorders still occasionally appear; but the largest proportion of febrile cases has taken on the form of synochus, in which the primary symptoms have speedily been changed for a brown tongue, considerable debility, and for a general state of constitution which does not bear the sedulous application of direct lowering remedies. Several cases also of Hemicrania have offered themselves, all of which have yielded to the combination of opium, valerian, and calumba, as recommended, I believe, by Dr. Smith, in his book on the Megrim.

A METEOROLOGICAL JOURNAL,

From the 21st of March, to the 20th of April 1814,

KEPT AT RICHMOND, YORKSHIRE,

NW from London.

D.	Barometer. Max.		Barometer. Min.		Therm. Max	Therm. Min.	Rain Gage.	Winds.	Weather.
21	29	33	29	30	42	38		SE.NE.	1 M.. 2R. 3 Cy..
22	29	38	29	35	44	37		Vble.	1 M... 2 M.. 3 M...
23	29	37	29	34	46	34		WSW.	1 M.. 2 S..
24	29	28	29	25	42	38		SE.	1 Cy.. 4 St
25	29	25	29	22	46	39	01	Vble.	1 M.. 2 S.. 3 R. 4 St..
26	29	37	29	27	51	38	02	SE.SW.	1 S.. 2 R.. 4 Moonsh..
27	29	43	29	39	57	39		SE.SW..	1 S..
28	29	34	29	29	57	39		SE.SE....SE..	1 M..
29	29	40	29	33	57	40		SE..SE....SE..	1 S. 3 R. 4 Cy..
30	29	49	29	47	52	39		SE..	1 M.. 3 S. 4 Cy..
31	29	30	29	30	50	36	04	SE..SW..	1 M.. 2 R.. 4 Moonsh..
1	29	18	28	93	57	38	20	SW..	1 S.. 4 R...
2	29	88	28	80	58	42	08	SW..	1 S.. and Sh..
3	29	18	29	05	53	39	04	SW....W..	1 S. and Sh.. 4 Moonsh..
4	29	36	29	35	58	32		WSW..	1 S...
5	29	52	29	43	57	38		SW..	1 S...
6	29	63	29	55	62	44		SW..	1 S..
7	29	86	29	82	67	44		SW.	1 S...
8	29	86	29	85	66	42		Vble.	1 S...
9	29	84	29	79	67	44		W.E.	1 S...
10	29	77	29	73	63	34		SW.SE..	1 S...
11	29	65	29	54	59	40		SW..SE.	1 S...
12	29	51	29	51	61	38		SE..SW..	1 M.. 2 S...
13	29	51	29	42	67	41		W.SE.	1 S... 2 S.. 4 Cy..
14	29	29	29	23	69	41		W.SE..SW.	1 S...3Th....L....R.4St...
15	29	03	29	00	70	45		SW..SE..	1 S.. 3 R.. 4 Cy..
16	29	07	29	05	63	48		SE..SW..	1 S.. Sh..
17	29	28	29	16	58	44		SE..SE....SE..	1 R.... 3 S..
18	29	25	29	19	55	39		SE..NE..	1 Cy.. 2 R...
19	29	33	29	31	63	39		SE..SW..	1 S... 3 Sh..
20	29	36	29	30	66	42		SE..SW..	1 S.. 3 Sh.

Observations on Diseases at Richmond.

The rain gage column is defective this month, from the instrument being found to be leaky when the rain came on the 14th instant, from which day to the 20th a great quantity fell. Catarrhal complaints have declined considerably since the beginning of April, when the fine weather commenced. But the severe winter seems to have laid the foundation of phthisis pulmonalis in some young people. One of the patients who was last attacked with typhus, and who was reported to be recovering, was suddenly seized with bilious vomiting, which lasted about eighteen hours, and terminated in death. A few cases of rheumatism have appeared. Two of the cases of phthisis pulmonalis have proved fatal since our last report. The district is at present pretty healthy.

A REGISTER of the DISEASES of LONDON between March 20th and April 19th, 1814, for the London Medical, Surgical, and Pharmaceutical Repository.

DISEASES.	DISTRICTS. 1 S. W.	2 S.	3 S. E.	4 E.	5 N. E.	6 N.	7 N. W.	8 W.	9 Surry side W	10 Surry side E.	11 Hamp Highg.	No. of Cases.	Fatal.
Anasarca	5	1	1	7	2	4	2	2	3			27	2
Ascites	5	2			1	1	1		1			11	
Asthma	14	11	6	7	16	7	51	3	4			119	8
Acne			1		1							2	
Apoplexia	2	1	2	1	5		1	1	2	1		16	4
Aphtha	1	1			3	3	5		4	4		21	1
Amenorrhœa	11	3		4	3		6	1				28	
Asthenia	16	14	1	3	18	3			3	5		63	2
Abortio	1	3		2	1	6	2	1	2	1		19	
Bronchitis acuta	2		3		1	4	4	2				16	1
——— chronica	2		4				5	5	2	4		22	
Cancer	2											2	
Chlorosis	6	3		6			1	1				17	
Cholera	5		4	7		3	6		3			28	
Chorea	1											1	
Cephalalgia	15	5	1	6	11	2	10	7	9	7		73	
Colica	2	8		7	5	4	2	3	3	2		36	
Catarrhus	91	41	50	12	43	15	62	37	19	23		393	
Convulsio	8	1	1	4	2	4		1		7		28	3
Coryza Maligna	1											1	
Carditis	2	3										5	
Cynanche Tonsillaris	19	3	11		8	9	15	36	5	6		112	
——— maligna	1	9					1					11	
——— Trachealis.	2							5		2		9	
——— parotidea.	4	4	3		2		11		3	2		29	
Delirium Tremens					1					2		3	
Diabetes			2	1			2					5	
Dysenteria		2		2	5		9		2	2		22	1
Diarrhœa	20	23	16	11	11	7	5	24	7	8		132	
Dyspnœa	7	2	5	4	8			2		1		29	
Dyspepsia	27	19	33	16	19	2	22	22	11	10		181	
Dysuria	2				1			5		1		9	
Eczema	1					2			1	3		7	
Ecthyma					1					2		3	
Erythema	2				1	1	1		1			6	1
Erysipelas	9		5	3	1	16	10	2	3	1		50	
Enteritis		1	1	3	2	1	2	2	1	4		17	1
Entrodynia		2			1	1		2	2			8	
Enuresis	2						1					3	
Epilepsia	1	2	2	1	3			2	1			12	1
Febris remittens	36	25	14	3	17	33	1	11	3	6		149	
—— intermittens	5	6	2	7	2	5	5		2	2		36	
—— puerpera		1			3	1				1		6	
Gastritis		1		1			1					3	1
Gastrodynia	15	14	1	6	3	1	1	3	4	7		55	
Hæmatemesis	6			1								7	
Hæmoptoe	3	3	1	6	1	1	2	1	1	3		22	1
Hæmorrhois	7	2	2	6	2		1	5	4	3		32	
Hepatitis	3		9	10	3		1	1	5	9		41	
Hysteria	3	3	3	8	6		5	1	2	3		34	
Hysteritis							1					1	
Hydrocephalus	1	3			2	1	2	1		1		11	7
Hydrothorax				1	2	1	2	1				7	2
Herpes	2	4	7	7	7	1	10	2	3	1		44	
Hypochondriasis		1		1	3		2	2	1	2		12	
Icterus	3			2	3		3	1	2	1		15	
Impetigo	2		1	1	1		20	2	1			28	

DISEASES.	DISTRICTS. 1 S. W.	2 S.	3 S. E.	4 E.	5 N. E.	6 N.	7 N. W.	8 W.	9 Surry side W	10 Surry side E.	11 Hamp Highg.	No. of Cases.	Fatal.
Ischuria					1					1		2	
Leucorrhœa	2	2	4	5	5	3	5		2			28	
Lepra	1						1					2	
Lichen			1		7	1	2		2			13	
Lumbago								1				1	
Mania	1					2	6					9	
Menorrhagia	10	2		6	3	2	9	6	3	2		43	
Miliaria				1								1	
Morbi Infantiles*	22	23	34	10	14	33	21	45	19	52		273	11
——— Biliosi	46	4	8	10	9	30	3	25	16	47		198	2
Morbus Pediculosus					1							1	
Nephritis			1	2				2		2		7	
Obstipatio	12	5	1	1	20	8	8	1	2			58	
Ophthalmia	14	8	12	4	8	5	6	16	4	5		82	
Paralysis	3		2	1	3	1	1	2	1			14	
Phthisis Pulmonalis	8	10	3	5	9	4	17	1	1	2		60	14
Pertussis	17	6	2	4	9	4	23	6	3	15		89	5
Peritonitis		2	1		1		1	5	1			11	
Phlegmasia Dolens										1		1	
Phrenitis				1			2			1		4	1
Pneumonia	5	19	11	9	17	4	16	7	5	6		99	5
Pleuritis	1				1							2	
Pleurodyne					3			1				4	
Polydipsia					1							1	
Podagra	2	7	1	7	9		3	5	2			36	3
Porrigo larvalis		5			2		5	1		1		14	
——— scutulata	2		1		3			1		1		8	
——— favosa								1	1			2	
Prurigo					4							4	
Psoriasis	2		1	6	1	3		1	2	2		18	
Pyrosis	5	6		2					1	1		15	
Rachitis		1			2		1					4	
Rheumatis. acut.	16	15	2	10	18	3	9	6	4	3		86	
——— chron.	14	3	6	9	38	2	11	2	5	7		97	
Roseola					2							2	
Rubeola	2	31		3			19	14				69	9
Scabies	3	11			5	12	43		4	3		81	
Scarlatina simplex	8	10				7	3		2	1		31	
——— anginosa	4			2	2	1	5	4	1	3		22	
——— maligna		1						1		2		4	
Splenitis					1					1		2	
Scrofula	5	3	7	2	7	8	2	2	5	1		42	
Synochus			2		7	4			2			15	
Tabes Mesenterica	1	1		3			4		1	2		12	1
Trismus							1					1	
Typhus		4				3	5	1	1	1		15	4
Variola	1			3	1		2		1			8	2
Varicella	2				6		13	4	3	2		30	
Vermes	11	6		7	7	1	1	3	5	6		47	
Vertigo	6	2		4	3		1	3	4	6		29	
Urticaria	3	3				4	1	1	2	3		17	
Total No. of Cases	605	417	292	284	459	285	544	365	225	317		3792	
Total of Deaths													94

* *Morbi Infantiles* is meant to comprise those Disorders principally arising from dentition or indigestion, and which may be too trivial to enter under any distinct head; *Morbi Biliosi*, such Complaints as are popularly termed *bilious* [illegible] but cannot be accurately classed.

☞ It is particularly requested that the fatal termination of any disease be carefully noted in the column for Deaths. The EDITORS will also be infinitely obliged to their Reporters, if, on the backs of their Registers [illegible] in the Cases, or in the remedies applied. *** *The returned Registers should be sent* [illegible] *at present we are unable to account, the Returns from the*

AN ABSTRACT from the REGISTER *of those* DISEASES *of* LONDON, *presumed to originate in, or be influenced by, the State of the* ATMOSPHERE, *with a* DIURNAL REFERENCE *to the* METEOROLOGICAL TABLE.

METEOROLOGICAL TABLE,

From the 20th of MARCH, to the 19th of APRIL, 1814.

M.	Therm.	Barom.		Hygrom. *Dry.*	Hygrom. *Damp.*	Winds.	Atmos. Variation.	D.
	32 47 41	29^{8}			20 17 16	SE..S..	C...F..C...	20
●	42 48 45	29^{7}			20 21	NE.S.SW.	Fog...R..C....R.. in N	21
	45 54 46	29^{7}			22 20 17	S..SW.	R.F...C..	22
	43 52 46	29^{7}			20 21 16	W.	F...F...F..	23
	42 47 45	29^{7}	8		19 21 22	SW.	C..R..C...	24
	44 49 47	29^{7}			22 25 20	SW..	C..R...F.C..	25
	42 48 46	29^{7}	8		21 22 19	SW.	C.C..R.C...	26
	44 50 47	29^{8}	9		20 25 19	W.	F..F...F...	27
◐	44 53 48	29^{8}	7		20 25 10	S..	F..F...F...	28
	45 49 44	29^{5}	7		15 20 17	SE..	C..R.C..	29
	41 51 46	29^{7}	30		20 18 12	NW..	Fog..F...F...	30
	45 49 49	29^{9}	8		15 21 19	S..	C...C...R...	31
	48 53 48	29^{8}	6		20 26 17	SW.	C....F... F..R..in N	1
	46 54 47	29^{4}	5		14 3 12	SW...	F...R..F....	2
	45 57 46	29^{5}	6	10 3	12	SW..	F..F....F....	3
○	43 61 49	29^{6}	7	9 3	1	SE..NE.E.	C..F...F....	4
	44 60 50	29^{8}	9	12 5	2	SE..	F...F....F....	5
	45 61 49	29^{9}	30^{1}	10	5 2	SW.	Fog..F....F....	6
	46 59 48	30^{1}	30^{2}	13	6 1	W.E.	F.F...F....	7
	45 62 48	30^{3}	2	12 5	6	E.NE.	C...F....F....	8
	44 64 49	30^{2}		3 26 19		NE..	F....F....F...	9
	44 66 50	30^{1}	1	9 31 17		E.	F....F....F....	10
	44 65 49	30	29^{9}	7 27 9		E.	F...F....F....	11
◑	45 69 59	29^{9}		5 36 24		E.SW.	F.F....F....	12
	56 69 58	29^{8}		19 33 22		SW.E.	C..F....F..	13
	55 71 60	29^{7}	8	15 42 33		E.SE.	F..F....F....	14
	57 58 32	29^{6}		20 15 12		SE.S..	F...R...C.F..	15
	54 56 55	29^{5}		10 14 10		SW..	R.R.F..R..	16
	53 67 53	29^{5}	7	6 24 16		S..SW...	R...F.C..	17
	51 55 52	29^{7}	6	10 5 4		S..	R...R...R..C..	18
	50 58 53	29^{7}	8	4 21 15		SE..	F..F...F..	19

D.	Asthma.	Apoplexia.	Bronchitis.	Cholera.	Cephalalgia.	Colica.	Catarrhus.	Cynanche.	Cynanche Trachealis.	Dysenteria.	Diarrhœa.	Dyspnœa.	Erysipelas.	Febres.	Hæmoptoe.
20	5	—	1	—	4	1	33	2	—	1	3	—	1	10	—
21	3	2	2	—	3	1	29	7	1	1	4	3	1	8	—
22	11	—	2	2	4	1	14	4	—	2	7	—	2	7	—
23	5	—	—	—	3	—	16	7	—	1	2	2	4	7	—
24	4	—	3	3	3	4	19	4	—	—	4	1	3	4	—
25	5	1	1	—	3	3	15	5	—	—	3	2	3	5	—
26	6	—	1	—	4	4	20	5	1	—	4	1	2	9	1
27	4	2	—	—	4	—	19	5	—	—	4	2	4	4	—
28	5	—	1	—	3	1	14	6	—	—	3	1	5	6	1
29	7	—	2	1	2	3	17	3	—	—	9	—	—	7	—
30	7	1	—	—	2	1	14	6	1	—	1	1	2	4	1
31	4	—	—	1	2	—	12	7	—	1	2	1	—	9	—
1	3	—	—	—	1	—	19	8	—	—	4	1	—	6	1
2	2	—	2	1	3	2	9	7	—	—	2	2	1	9	1
3	1	1	1	1	2	1	14	4	1	—	4	—	3	3	—
4	3	—	2	2	2	1	7	5	—	5	4	3	2	7	—
5	7	1	—	1	2	1	9	8	1	2	5	1	1	4	2
6	3	—	2	2	2	2	8	7	1	1	11	—	2	9	2
7	4	—	2	—	1	—	11	2	—	—	3	—	2	4	—
8	3	2	—	1	2	—	5	8	—	1	5	—	—	4	—
9	2	1	1	2	—	—	12	5	1	—	5	—	1	7	—
10	1	—	1	—	1	—	5	3	—	—	4	1	—	5	2
11	7	1	—	2	3	2	3	3	—	—	6	2	3	5	2
12	3	1	1	—	2	—	8	4	—	—	5	3	—	4	1
13	5	1	3	4	1	1	19	3	—	1	4	1	3	10	2
14	—	2	2	—	—	1	7	3	1	1	2	—	1	3	1
15	1	—	1	2	1	—	5	5	—	2	5	—	1	4	1
16	2	—	1	—	2	1	9	2	—	2	3	—	1	5	—
17	—	—	2	1	—	2	7	6	—	1	4	1	—	5	3
18	2	—	1	2	2	1	9	5	1	—	4	—	1	9	1
19	4	—	3	—	2	2	5	3	—	—	6	1	1	8	—
No. of Cases...	119	16	38	28	73	36	393	152	9	22	132	29	50	191	22
Fatal...........	8	4	1	—	—	—	—	—	—	1	—	—	—	—	1

D.	Morbi Biliosi.	Ophthalmia.	Paralysis.	Phthisis.	Pertussis.	Pneumonia.	Podagra.	Rheumatismus.	Rubeola.	Scarlatina.	Synochus.	Typhus.	Variola.	Varicella.	Vertigo.	Urticaria.
20	10	1	1	4	1	10	1	4	4	—	—	1	—	—	1	1
21	5	4	—	3	5	8	1	7	6	2	—	1	—	—	—	—
22	7	6	1	3	7	7	3	7	—	3	—	1	—	2	—	2
23	8	7	2	3	4	6	2	6	7	1	1	—	—	1	—	1
24	6	2	1	1	1	5	1	11	2	4	2	1	1	—	1	1
25	7	—	1	3	1	5	—	7	5	1	—	1	—	1	2	—
26	7	7	1	4	4	3	1	4	2	3	—	2	—	—	2	1
27	5	3	—	2	2	3	—	4	2	—	—	—	—	1	—	—
28	5	2	1	1	2	4	—	5	—	—	—	1	1	—	3	—
29	3	4	—	2	4	2	3	7	2	—	2	—	—	4	2	—
30	10	6	—	2	3	2	2	6	1	—	1	—	—	1	1	1
31	4	4	—	2	3	1	2	1	1	1	—	1	—	2	1	—
1	6	1	—	5	—	4	—	10	—	3	1	1	—	1	—	—
2	9	—	—	3	2	2	3	8	2	2	—	—	1	—	2	1
3	2	2	—	2	—	2	2	8	4	6	—	1	—	3	—	—
4	3	1	—	—	2	3	—	7	4	2	2	—	—	—	—	—
5	6	2	2	1	—	2	2	2	1	1	—	—	—	—	1	—
6	5	3	—	2	5	3	—	10	3	1	—	—	—	—	1	—
7	5	2	1	2	2	3	—	7	1	2	—	1	—	3	—	1
8	4	2	—	—	5	2	1	4	—	1	1	1	—	2	—	1
9	7	—	—	3	2	1	2	3	6	—	—	—	—	—	1	—
10	6	2	—	—	3	—	1	6	—	1	—	—	—	—	—	—
11	8	4	—	—	2	4	—	2	1	2	1	—	—	1	1	1
12	6	2	—	3	1	1	—	3	1	4	—	2	1	—	2	—
13	8	3	—	2	4	2	2	10	8	5	1	—	2	2	3	—
14	6	4	—	2	4	3	3	4	1	2	2	—	—	4	2	1
15	14	3	1	2	—	4	2	5	3	2	—	—	—	1	—	2
16	5	2	—	—	10	2	1	7	2	3	—	—	—	1	3	1
17	6	2	—	—	4	—	—	7	—	3	1	—	—	—	—	1
18	7	1	1	—	5	4	—	6	—	2	—	—	—	—	—	—
19	6	—	1	3	1	1	1	5	—	—	—	—	2	—	—	2
No. of Cases...	198	82	14	60	89	99	36	183	69	57	15	15	8	30	29	18
Fatal...........	2	—	—	15	5	5	3	—	9	—	—	4	2	—	—	—

Princes Street, Cavendish Square.

Total of Cases,...2312. Total of Deaths,...60.

Quantity of Rain, from the 20th of March to the 19th of April, one inch.

BILL OF MORTALITY, *from March 15th, to April 12th,* 1814.

CHRISTENED.	*Mar.* 15-22.	*Mar.* 29.	*Apl.* 5.	*Apl.* 12.	Total.
Males.........	147	128	190	133	
Females......	136	157	197	149	
	283	285	387	282	1237
				Decrease.........	165

BURIED.	*Mar.* 15-22.	*Mar.* 29.	*Apl.* 5.	*Apl.* 12.	Total.
Males.........	230	242	225	143	
Females......	168	219	228	124	
	398	461	453	267	1579
				Decrease.........	112

OF WHOM HAVE DIED,

	Mar. 15-22.	*Mar.* 29.	*Apl.* 5.	*Apl.* 12.
Under 2 yrs...	118	109	118	65
Betw. 2 & 5...	27	35	34	28
5 & 10...	8	16	6	17
10 & 20...	9	18	10	12
20 & 30...	22	28	28	16
30 & 40...	34	41	42	25
Small Pox....	4	9	4	9 Total..26

	Mar. 15-22.	*Mar.* 29.	*Apl.* 5.	*Apl.* 12.
Betw. 40 & 50...	38	55	52	22
50 & 60...	47	54	48	25
60 & 70...	48	55	56	27
70 & 80...	32	27	37	18
80 & 90...	13	18	16	12
90 & 100...	2	5	6	2
Measles............	11	4	2	6 Total 23

THE sudden setting in of the Spring has been as remarkable, as was the preceding duration of the frost. On the 20th of March, after blowing from the East and North-East for fifteen days, the wind shifted to the South, bringing with it a genial temperature of air, which has scarcely since diminished. The height of the Thermometer, the clearness of the air, and the degree of atmospheric dryness, has more resembled June or July than April. This amelioration of temperature has, as might be expected, proved highly favourable to the constitutions of young children, and the aged; and the mortality of the past month has consequently diminished. The change has likewise produced corresponding effects on the nature of the diseases. The catarrhal and pneumonic affections have sensibly decreased; but phthisis, the result and sequela of the injury inflicted by the intense cold, presents, in the present list, a marked and formidable addition. About the close of March, cases of catarrh occurred rather frequently, and in several of them much of coryza, with pain in the frontal sinuses and antrum highmorianum.

In the orders, *Febres, Phlegmasiæ,* and *Exanthemata,* a considerable augmentation will be evident. Croup has been more than usually prevalent, but in no instance fatal. The intermittent fevers, common about the vernal equinox, begin to prevail. Synochus and typhus are more general. Complaints arising from the derangement of the hepatic secretions are very rife; and probably the great increase to *Morbi Infantiles* may be imputed to disorders of the *primæ viæ.* The great number classed under this general

future, have the caution to particularize and class with more precision the diseases of children. Although scarlatina is on the advance, yet the cases have been generally mild. Cephalalic complaints, and inflammations of the eyes have been extremely prevalent.

Measles is the most epidemic at present. It is a fit occasion, and ought not to pass without exciting the pointed attention of the Faculty, and of our intelligent Friends especially, who so liberally contribute to the Register, of remarking how far the observations, which Dr. Watt has made on the increased fatality of this disease in Glasgow, apply to this metropolis. It is a very interesting and important investigation, whether considered in a political or medical point of view; and we hope the opportunity of a full and impartial inquiry will not be neglected. In this month's report there are 69 cases of measles, and 9 deaths; 8 of which were patients of public charities. Three out of five deaths from pertussis, which holds near the same rank in the present as in the last report, were also patients similarly placed. We do not mean to infer by this remark, that patients so situated have not due medical attention; but that they are probably, either from constitution or some domestic cause, subjects on whom, in the treatment of acute diseases, success is more than usually uncertain.

The case of hydrocephalus in a child of three years old, reported in our last as offering a hope of recovery, died on the 25th of March. The eldest of the three children mentioned as labouring under hydrocephalus and pertussis also died. The parents would not accede to the desire of examining the body. The second, ætat. three, is now rapidly returning to a state of convalescence. The youngest, one year old, still continues very ill, and though the symptoms of hydrocephalus are disappearing, yet the frequent convulsive attacks of the cough render a favourable termination very dubious. The only remedies prescribed were, hydrar. cum creta gr. iv. hydr. submuriatis gr. ss. pulv. jalapæ gr. ij. Misce, fiat pulvis ter in die, and five grains of powder of ipecacuanha given every other evening. Two of the fatal cases of hydrocephalus in the present Register also supervened on pertussis. One of the cases of diarrhœa occurred in a female, who two years since had laboured under dysentery; during which, severe purgatives were given, 4 and 5 grains of calomel with jalap: chronic diarrhœa having ensued. Synochus has occurred more frequently during April: in three cases terminating in abscesses; in one, under the fascia of the loins; in another, deeply seated on the pectoral muscle, and leading to the clavicle; and in another, at the angle of the jaw, being very extensive and slow in its progress.

A case of syphilitic eruption, agreeing with lichen lividus, left pits after the cure, some of which were large and deep like pock-marks, and where no pustules had formed. Two of the affections marked cynanche tonsillaris, were of a peculiar nature. The tonsils were not swelled, but, in conjunction with the velum, and every part of the fauces within view, were covered with an erysipelatous, or rather erythematic inflammation, with small aphthus specks scattered on different places. This state of the parts seemed to extend down the æsophagus, as a great degree of soreness was experienced in swallowing even the blandest substances. A slight cough also attended, which produced considerable uneasiness. The pulse was hard, but not very quick, seldom exceeding 90; the tongue covered with a white fur, simply indicating much acidity of the stomach. The bowels were slow; the urine rather scanty, but not very high coloured; and the skin generally moist. The blood when drawn from the arm displayed no inflammatory crust. In the treatment of this species of sore throat, the chief indication was to correct the state of the digestive organs, and apply such

local remedies as would heal the little ulcers of the fauces. With this view gentle purgatives, containing an excess of alkali, were exhibited; and the throat was touched several times a day with mel boracis; besides being frequently gargled with a solution of borax in simple infusion of roses, with some honey added. By this treatment, the disease readily yielded in six or eight days.

A case of aptha gangrenosa occurred in a child of four years of age, immediately on the termination of hooping cough; and at first assumed a very formidable appearance. The child was pale, languid, and fretful; the pulse very small and quick, the tongue covered with a thick cream coloured fur, with a deep yellow streak in the centre. The insides of the cheeks, the lips, and the velum palati were spread with ulcers, some of them nearly half an inch in diameter, and covered with grey sloughs; the gums were spungy, swelled, and red; and the breath extremely offensive. The bowels were rather confined; and the evacuations, which were scanty, were of an olive hue, and extremely fœtid. The stomach was emptied by a gentle emetic, and the bowels kept lax by means of a powder, containing two grains of submuriate of mercury, and seven of the compound contrayerva powder, exhibited every night at bed-time; whilst, as a gentle tonic, ten fluid drachms of infusion of cascarilla, with half a fluid drachm of tincture of cinchona, was taken three times a-day. The ulcers and gums were touched frequently with a weak solution of argentum nitratum. Under this treatment the disease was rapidly cured.

Monthly Prices of SUBSTANCES *employed in* PHARMACY.

(H signifies higher in price; L lower, since the last Report.)

		S.	D.
Acaciæ Gummi elect.	lb.	4	0
Acidum Citricum		28	0
—— Benzoicum	unc.	6	6
—— Sulphuricum	P. lb.	0	7
—— Muriaticum		1	0
—— Nitricum		2	6
—— Aceticum	cong.	4	6
Alcohol	M. lb.	5	0
Æther sulphuricus		10	6
—— rectificatus		12	0
Ærugo	lb.	7	0
Aloes spicatæ extractum		6	0
— vulgaris extractum		4	9
Althææ Radix		1	3
Alumen		0	5
Ammoniæ Murias		3	0
—— Carbonas		3	0
Amygdala dulcis		5	9
Ammoniacum (Gutt.)		7	6
—— (Commun.)		3	6
Anthemidis Flores		2	3
Antimonii oxydum			
—— sulphuretum		1	0
Antimonium Tartarizatum		5	6
Arsenici Oxydum		1	0
Assafoetida Gummi-resina		7	6
Aurantii Cortex		3	6
Argenti Nitras	unc.	6	9
Balsamum Peruvianum	lb.	24	0
—— Tolutanum		18	0
Benzoinum elect.		12	0
Calamina præparata		0	4
Calumbæ Radix		3	0
Cambogia		9	6
Camphora		10	0
Canellæ Cortex		3	6
Cardamomi Semina opt.	lb.	14	6
Cascarillæ Cortex		6	6
Castoreum	unc.	4	6
Catechu Extractum	lb.	2	4
Cetaceum		3	0
Cera alba		4	0
—— flava		3	6
Cinchonæ cordifoliæ Cortex (yellow)		8	6
—— lancifoliæ Cortex (quilled)		10	6
—— oblongifoliæ Cortex (red)		16	0
Cinnamomi Cortex		16	0
Coccus (Coccinella)	unc.	4	6
Colocynthidis Pulpæ	M.	11	0H
Copaiba		7	6
Colchici Radix		3	6
Croci stigmata	unc.	4	6
Cupri sulphas	lb.	1	0
Cuprum ammoniatum		12	0
Cuspariæ Cortex		4	0
Confectio aromatica		10	0
—— Aurantii		3	6
—— Opii		6	0
—— Rosæ Caninæ		2	1
—— Rosæ Gallicæ		2	6
—— Sennæ		1	8
Emplastrum Lyttæ		7	6
—— Hydrargyri		3	0
Extractum Cinchonæ	unc.	3	0
—— Cinchonæ resinos.		[illegible]	6
—— Colocynthidis		2	6
—— Colocynthidis comp.		1	6
—— Conii		0	6
—— Gentianæ		0	6
—— Glycyrrhizæ	lb.	3	8
—— Hæmatoxyli	unc.	0	6
—— Humuli		0	6

		S.	D.
Extractum Hyosciami	unc.	1	0
—— Jalapæ 2*s*. 0*d*.	Res.	3	6
—— Opii		3	6
—— Papaveris		1	0
—— Rhæi		2	6
—— Sarsaparillæ		1	0
—— Taraxaci		0	6
Ferri carbonas	lb.	0	9
— sulphas		1	3
Ferrum ammoniatum		4	0
—— tartarizatum		4	6
Galbani Gum-resin.		8	0
Gentianæ Radix		1	0
Guaiaci Resina		6	6
Hydrargyrus purificatus		6	0
Hydrargyri Oxymurias	unc.	0	8
—— Submurias		0	9
—— Nitrico-Oxydum		0	8
—— Oxydum Cinereum		1	4
—— Oxydum rubrum		5	6
Hydrargyrus præcipitatus albus		0	9
Hydrargyri Sulphuretum rubrum		0	8
Hellebori nigri Radix	lb.	3	0
Ipecacuanhæ Radix		28	0H
—— Pulvis		27	0
Jalapæ Radix		6	3
—— Pulvis		7	0
Kino		24	0H
Liquor Plumbi Acetatis	M. lb.	1	4
— Ammoniæ		1	6
Linimentum Camphoræ comp.		6	0
Lichen Islandicus	lb.	1	10
Lyttæ		15	0
Magnesia		9	0
Magnesiæ Carbonas		2	6
—— Sulphas		1	4
Manna optima		9	0
— communis		6	0
Moschus pod, 24*s*.	in gr. unc.	36	0
Mastiche	lb.	6	6H
Myristicæ Nuclei		26	0
Myrrha elect.		7	0
Olibanum		3	0
Opoponax		26	0
Opium (Turkey)		36	0
Opium (East India)		34	0
Oleum Amygdale	lb.	5	6
— Anisi	unc.	2	9
— Anthemidis		6	0
— Cinnamomi Cassia		8	0
— Caryophilli		6	0
— Cajuputi		6	6
— Carui		1	9
— Juniperi		4	0
— Lavendulæ		4	0
— Lini	cong.	9	0
— Menthæ piperitæ	unc.	4	6
— — viridis		2	0
— Olivæ	cong.	26	0L
— Olivæ secundum		18	0L
— Pimentæ	unc.	5	0
— Ricini optim.	(per bottle)	10	6
— Rosmarini	unc.	0	9
— Succini 2*s*. 4*d*. ——	rect.	4	0
— Sulphuratum	M. lb.	1	6
— Terebinthinæ		2	0L
— — rectificatum		2	9
Papaveris Capsulæ	(per 100)	3	0

		S.	D.
Plumbi Carbonas	lb.	0	8
— Superacetas		2	6
— Oxydum semi-vitreum		0	8
Potassa Fusa	unc.	0	9
— cum Calce		0	6
Potassæ Nitras	lb.	1	0
— Acetas		8	0
— Carbonas		1	6
— Supercarbonas		4	0
— Sulphas		1	0
— Sulphuretum		2	0
— Supersulphas		0	6
— Tartras		3	0
— Supertartras		2	0
Pilulæ Hydrargyri	unc.	0	9
Pulvis Antimonialis		0	8
Resina Flava	lb.	0	5
Rhæi Radix (Russia)		30	0
—— (East India)		12	0
Rosæ Folia		12	0
Sapo (Spanish)		2	6
Sarsaparilla Radix		6	0
Scammoneæ Gum-Resina	unc.	2	6
Scillæ Radix siccat	lb.	5	6
Senegæ Radix		4	0H
Sennæ Folia		7	0H
Serpentariæ Radix		21	0
Simaroubæ Cortex		4	6
Sodæ Boras		5	0
— Sulphas		0	9
— Carbonas		7	0
— Subcarbonas		1	6
— — exsiccata		4	0
Soda tartarizata		3	0
Spongia usta		24	0
Spiritus Ammoniæ	M. lb.	4	0
—— —— aromaticus		4	0
—— —— fœtidus		4	0
—— —— succinatus		5	0
— Cinnamomi		2	8
— Lavendulæ		4	6
— Myristicæ		3	6
— Pimentæ		3	6
— Rosmarini		4	0
— Ætheris Aromaticus		5	6
— — Compositus		5	6
— — Nitrici		4	0
— — Sulphurici		6	6
— Vini rectificatus	cong.	28	0
Syrupus Papaveris	lb.	2	0
Sulphur		0	5
— Sublimatum		0	8
— Lotum		1	0
— Præcipitatum		1	0
Tamarindus opt.		2	6
Terebinthina Vulgaris		0	10
Terebinthina Canadensis		5	6
Terebinthina Chia		7	6
Tragacantha Gummi		10	6
Valerianæ Radix		1	10
Veratri Radix		1	6
Unguentum Hydrargyri-fortius		5	6
—— —— Nitratis		2	8
—— —— Nitrico-oxy.		3	0
Uvæ Ursi Folia		2	6
Zinci Oxydum		3	6
— Sulphas purif.		2	6
Zingiberis Radix opt.		2	6

Prices of New Phials per Gross.——8 oz. 70*s*—6 oz. 58*s*.—4 oz. 47*s*.—3 oz. 43*s*.—2 oz. and 1½ oz. 36*s*.—1 oz. 30*s*.—half oz. 24*s*.——The London Glassmen allow 10 per Cent, ready money.——The Manufacturers in the Country, where all Phials are made, allow 7½ discount, at three months credit, (carriage free,) to London.

Prices of second-hand Phials, cleaned, and sorted.——8 oz. 46*s*.—6 oz. 44*s*.—4 oz. 33*s*.—3 oz. 30*s*.—2 oz. and all below this size, 24*s*.—Three months credit.

English Hirudines, 12*s*. per dozen at Covent Garden Market.

, *It has been objected by some of our Correspondents, that the prices in the above differ widely from those charged by other druggists, and that, therefore, they cannot rely on it.—We are not dealers in drugs; consequently obliged to depend on those who are so. The List is regularly priced, every month, by one of the most respectable Houses in London: the address we do not attach to the List, because it might be deemed invidious. But we shall be happy in referring all inquiries (post paid) to the House alluded to.—The prices of Phials are from our own Bills of Parcels.*

MONTHLY CATALOGUE OF BOOKS.

A Case of Diseased Prostrate Bladder and Rectum, successfully treated. By Jesse Foot, Surgeon. Highly.

An Account of Baths, and of a Madeira House at Bristol. By Edward Kentish, M.D. 8vo. Longman and Co.

A Practical Essay on the Diseases of the Vessels and Glands of the Absorbent System. By William Goodlad, Surgeon. 8vo. Longman and Co.

An Enquiry into the Probability and Rationality of Mr. Hunter's Theory of Life; being the subject of the First Two Anatomical Lectures delivered before the Royal College of Surgeons, London. By John Abernethy, F.R.S. Professor of Anatomy and Surgery to the College. 8vo. Longman & Co.

Results of Experience in the Treatment of Defects of Utterance from Deficiencies in the Roof of the Mouth, and other Imperfections and Malconformations of the Organ; with Remarks on several cases of tardy and imperfect developement of the Faculties. By John Thelwall, Esq. Arch.

INDEX INDICATORIUS.

Dr. G. *we trust, will approve our reasons for declining to insert his intended favour.*

Our correspondent I. G. W. *must excuse our remarking, that, when an author deliberately publishes doctrines, deduced from data known to be false, as the result of his experience, he is highly criminal, and ought to be arraigned for the consequences that may ensue. But we also feel, that they who know the fallacy, and do not come forward to put the Public on their guard, are equally culpable. Anonymous intelligence is ever open to suspicion; nevertheless, as in the present instance, when the information is supported by the evidence of common observation, we shall not altogether disregard it.*

The answer to a Borough Friend's *Query is received; and shall be duly noticed.*

We avail ourselves of this opportunity to acknowledge our Evesham Friend's *Letter. The abuse, of which he so justly complains, will, we trust, with many others that are equally injurious to the Public and derogatory to Medical Science, be speedily remedied.*

The Public are much indebted to Mr. Edm. Blathwayt, of Narberth, Pembrokeshire, *for the pains he has taken to investigate and refute the account of the two children of* Evan Francis *in that neighbourhood having been killed by the external application of a strong solution of arsenic, for the cure of a cutaneous disease; such report being totally void of all truth: and we beg to express our thanks to Mr. B. for his polite attention to us.*

Communications are likewise received from A Northamptonshire Practitioner, Studens, I. R., I. A., &c.

The Letter from Mr. Adams, *of Albemarle Street, will certainly appear in our next, with such explanatory remarks as we hope will be satisfactory both to him and to the Public.*

The case of Midwifery, appended to the Meteorological Table from Derby, will be inserted in our next Number; with a considerable mass of intelligence, and other materials, reluctantly postponed for want of room.

Communications intended for insertion in the subsequent Number, should reach us before the 12th of the month. They are respectfully solicited, and should be addressed (free of expence) to Mr. Burrows, *Bloomsbury Square: by whom Books for the Review Department, Articles of Intelligence, &c. &c. will also be received.*